American Aviation

The Independent Voice of American Aeronautics **DECEMBER 15, 1943**

Fortnightly Review

Forty Years

DECEMBER 17 is the most hallowed day in aviation. On the and dunes of Kitty Hawk, North Carolina, on that bleak December day in 1903, the Wright Brothers proved for the first time hat man could fly in a heavier-than-ir machine.

This year more than any other year here is cause for reflection upon the remendous economic, social and polit- al effects which the airplane has had n this crusty old world of ours. Forty ears—a mere flash in the passing arade of time. But forty years packed ith great scientific advances of all inds and forty years in which the air- lane has shrunk the world out of all roportion.

The nation and its capital are confer- ng unusual honors on Orville Wright is year and we join everyone in wish- g him the best of health. What motions this shy and quiet inventor ust have to have witnessed in only rt of his lifetime the great advances the science and art of flight in which e had such an historic part in launch- g.

What Orville and his late brother, ilbur, set out to invent was a mechan- l machine which would carry them rough the air. But how much greater s the airplane become than a mere ntrivance to conquer the air. Today is thing we call an airplane is the st complex machine ever brought o human use. Today it is military, is political, and it is commercial. It a weapon of war, it is a medium of nsportation and it is an instrument national prestige.

Tomorrow we can hope the airplane l become more and more a means of

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St. Louis Post-Dispatch Photo.

The National Aviation Training Association held its annual meeting in St. Louis Dec. 2-4, changed its name to National Aviation Trades Association, and elected the officers shown above, left to right: Henry von Berg, head of Pathfinder Flying Service, Carson City, Nev., named second vice president; F. Leslie Marsden, Buffalo Aeronautical Corp., Buffalo, N. Y., named first vice president, and Roscoe Turner, president of Roscoe Turner Aeronautical Corp., Indianapolis, named president of the association. (Story on page 15).

Late Bulletins

ATC Planes to Fly Mail

Roy Martin, superintendent of air mail for the Post Office Dept., revealed on Dec. 8 that, upon request of the Post Office, the Air Transport Command will fly mail which the airlines cannot handle during the Christmas rush. ATC was to start Dec. 10 and continue until a few days after Christmas. It is understood that the arrangement does not include registered mail, and is intended for domestic operations only. Martin explained that the ATC helped out last year in a few instances and will expand their aid this year, wherever congestions occur which the commercial airlines cannot clear expeditiously.

Trend of The News

Stymied: Increasing evidence stacked up during the fortnight indicating that the House Rules Committee has adopted a policy of "death by inaction" toward the Lea bill. Rules Committee, which must give its clearance, before the bill can be taken up on the House floor, scheduled no hearings, claimed that a quorum of members were not available. The unanticipated reluctance of Rules Committee to release his bill provoked a counter-move by Chairman Clarence F. Lea (D., Calif.) of Interstate and Foreign Commerce Committee. In a letter to Chairman Adolph Sabath (D., Ill.) of Rules Committee, Lea formally requested that his bill be acted upon not later than mid-January.

Whither CAP? Greatest topic in civil aviation circles these days is the future of the Civil Air Patrol. Great programs are in the offing, the biggest to be announced to the nation around the first of the year unless an unforeseen obstacle appears. There is a lot of sentiment within CAP to make it a permanent body. Top officers deny any such plans but this doesn't keep some of the planners from planning—and hoping. There are deep undercurrents of rumors and discussions going on from coast to coast. Wiser heads doubt very much if CAP could last very long after the war regardless of the plans. But with 80,000 members, it could create quite a splash at that. It all depends upon which side you're on.

In Defense of WTS: While its possible to start an argument on almost any street corner about War Training Service, very few WTS operators will take issue with the assertion being strongly made these days that WTS Director R. McLean Stewart has done an exceptionally good job of administration. Sabotaged by the civil service crowd, hampered by the usual prejudice against a Wall Street man, and damned merely because he's a federal director, Stewart has kept on the beam and called the strikes with unusual sincerity. His aide, W. L. Jack Nelson, is given credit for good performance also. Stewart often gives decisions that aren't popular, but insiders also know that about one-fourth of WTS operators have not been lax in trying

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20c

WAR PLANES, TOO, NEED SMOOTH COMPLEXIONS

A satin-smooth skin means much to a woman's beauty. But to a war plane, a sleek, smooth skin is more than a matter of appearance. It's a matter of performance.

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American Aviation

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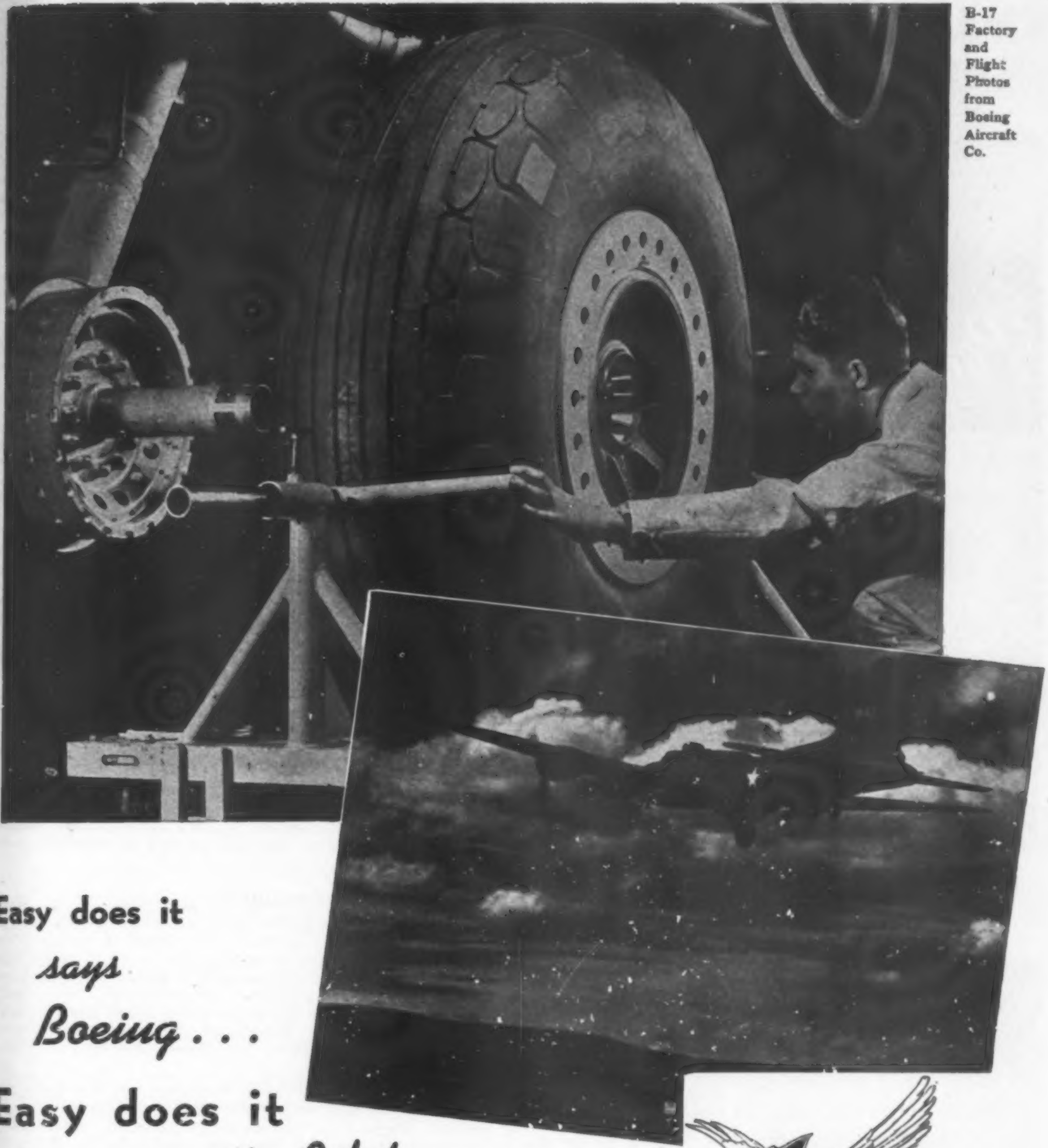

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ARMY E NAVY

WITTEK Aviation HOSE CLAMPS

Trends

(Continued from page 1)

to chisel on the program—from buying expensive cars to putting all the relatives on the payroll. Anyone in Stewart's job would draw criticism. But when the current criticism is sifted down in the light of reality, his record is far above par. Even the chiselers will admit this when pressed.

On Schedule: One of the most significant revelations of the past fortnight in the aircraft manufacturing industry was the fact that virtually all West Coast factories are now on schedule daily—not depending on month-end expediting to bring their output up to schedule. It is considered a revealing commentary on the industry's strides in utilizing manpower and production know-how.

Termination Policy: War Mobilization Director James F. Byrnes, in his "hold the line" address on the anniversary of Pearl Harbor, promised immediate development of a final government policy on war contract termination—the first really encouraging word on that subject to come from the Government. He said that a group representing the operating agencies had been working out "uniform and expeditious procedures for the termination of war contracts" and would submit its findings within a week to him and his advisor, Bernard M. Baruch. Shortly thereafter, he promised, the over-all policy "will be finally determined and announced." Byrnes said that detailed studies also were being made of the "best methods of handling and disposing of surplus properties." It is presumed that he may make recommendations for legislation, and his statement was viewed in Washington as significant. He mentioned the subject briefly, saying: "We must see that the contractor is promptly paid, that the war machinery of the government is promptly removed and the factories returned to making those things our people need."

150,000th Plane: Byrnes dramatically revealed on the second Pearl Harbor anniversary that on Dec 6 the 150,000th airplane produced in the U. S. since June 1, 1940, had rolled off the production line that day. It was a landmark in aviation history.

Parts Makers' Troubles: Brig. Gen. F. M. Hopkins Assistant Chief of Materials, Maintenance and Distribution, AAF has promised to urge the War Labor Board to hasten action on a petition to correct a wide disparity in labor rates between parts makers and prime contractors in the aircraft industry. Heavy turnover is troubling subcontractors, particularly in California, where the SCAI rates are much higher than the parts makers can pay. Importance of the subcontractors in the overall picture is not being overlooked.

Reports and Visitors: There are still too many reports required of the airframe industry, it is agreed by no less authorities than Bernard Baruch, adviser to Assistant President Byrnes Undersecretary of War Patterson, and John B. Hertz of the latter's office, according to industry men who have talked with them about this problem. Government spokesmen promise continued efforts to reduce the number of time-consuming reports. It is pointed out that the Statistical Control Office of the Materiel Command has a division, the sole job of which is to eliminate reports. The Bureau of the Budget has a sub-committee reviewing reporting requests from the standpoint of industry. The Aircraft War Production Council is represented on that committee by Henry P. Nelson. Also a heavy drain on executive man-hours is the large number of visitors, West Coast manufacturers find. It has been suggested that the Army exercise screening authority, particularly at the Washington level. Overlapping investigations and agencies sometimes interfere with actual production. As an example, there are 216 separate groups studying contract terminations and postwar matters in Washington at the present time.

More Planes: Look for the airlines to get some more airplanes back from the Army soon. The seven turned back the other day will be followed by several more, maybe a dozen

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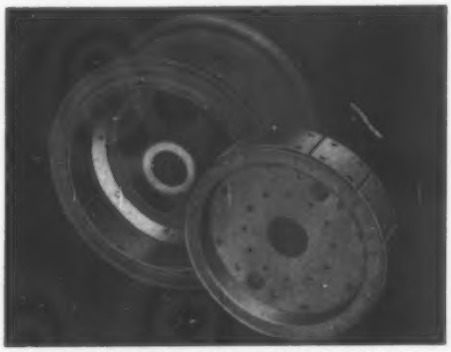

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BREWSTER BUCCANEER NAVY DIVE BOMBERS AND CORSAIR FIGHTERS

Editorial

(Continued from page 1)

utilitarian transportation—a means of speeding persons and cargo between points far distant, or between points difficult of reaching swiftly by surface methods. Tomorrow we hope the airplane will become a vehicle for the average person—a vehicle that will provide him with pleasure, speed, comfort and utility.

But if this 40th anniversary of flight means anything today, it means that the age of flight has truly been born. We can be sure of that. In his editorial page in *Liberty* for December 18, Paul Hunter, the publisher sums up this new age of flight in measured and effective words:

"Today, there is much discussion of the future of aviation, some of it unduly visionary and some unduly pessimistic. However, any one can see with half an eye that we have entered upon a new age—the age of flight. No one can accurately foretell at this point the use of the airplane or the work it will be called upon to do in the ensuing years. However, history shows nothing stands for long in the way of mechanical advancement. The conquest of the air represents one of the most valuable and far-reaching mechanical advancements mankind has achieved. Perhaps it is too much to say that hereafter every human being will practically be born in a pilot's seat, but we wish we could be as sure of everything in this world as we are of the future of what President Roosevelt calls 'aviation in peace.' "

The Fledgling Takes Wings

FOUR years ago a handful of CPTP operators thought it would be a good idea to band together into an organization for the purpose of assisting one another in mutual problems and to provide a semblance of a common front in Washington. The National Aviation Training Association was thus born with modest support and more modest aspirations. The NATA has now held its fourth convention—the largest gathering of fixed base operators ever held in aviation history. The objectives of NATA have been adjusted to meet the requirements of the times. It has succeeded where all other efforts to organize the operators have failed.

NATA has a solid future if the operators will realize that in unity there is strength, that fixed base operators do have common problems and that many of these problems can be solved by common action. Never has there been a more rugged individualist in the nation than the fixed base operator of the past two decades. But a new era is opening. It is an era of business-like approach to business problems. Anyone who attended the record-breaking St. Louis convention could not help but feel that "this is it." If wishes come true, a real milestone in aviation will have been passed.

In prewar days it would be customary to give the boys a pat on the back and wish them well. Not this time. The gang is growing up. This time we can give a pat on the back for a job well done. The convention was not a promise—it was an actual performance. It was one of the finest and most constructive gatherings ever held. To Bill Ong, Les Bowman, Roscoe Turner, Les Marsden, C. R. Mooney and John Wilson and all of the others who brought dreams into reality, the plaudits of civil aviation are due. If NATA does not turn out to be the fixed base organization we have all desired, it won't be due to any lack of strength and potency of the St. Louis convention. The genuine germs of a permanent organization are there.

Dig Deeper, Mr. Lewis

THE OTHER night Fulton Lewis, one of the nation's very best radio commentators, took the priorities system apart because he was refused a priority to fly to the West Coast to uncover some war news. He thought the ATC priorities system was unfair because dissemination of accurate war news apparently didn't entitle him to a preferred seat on the airlines.

Mr. Lewis is a fearless and an able radio man, the only radio reporter, in fact, who goes out and digs up news and uncovers dislocations in the war effort. But we thought he was most unfair to berate the ATC priorities system. He should have gone deeper to learn the reasons why he had to miss several broadcasts and travel by slow train. The priorities officials have generally acted with uncommon good judgment and manners in a situation which would fray the nerves of even the most patient. The ATC priorities people cannot be blamed. The root of the trouble is simply in the shortage of airplanes. Does Mr. Lewis realize that the airlines are operating with only half their prewar equipment? Has he ever experienced what goes on at busy airline terminals in these harried war days? We suggest that ATC priorities invite Mr. Lewis behind the scenes some day and let him endeavor to make decisions! We've been critical of many things in the war effort, but we quickly come to the defense of those who are trying to do their best under grave handicaps. Priorities are not to blame for the shortage of airplanes.

No More Charging

LAST August *American Aviation Daily* carried a news item that certain Washington officials were upset because British Overseas Airways, a government airline operation, was charging the U. S. for carriage of Army men and other U. S. passengers. The news item stirred up a brief but torrid spat, with the British issuing a qualifying denial. The particular area in question was the Middle East, and the American officials were burned up because BOAC was flying lend-lease airplanes supplied by the U. S.

We are happy to record herewith that BOAC has received an order instructing its officials not to make any more charges for U. S. passengers or mail. As a

(Turn to page 12)

Rockford, Ill.,
Nov. 19, 1943.

To the Editor:

Keep up the good work you are doing. Yours is really the true voice of American aviation and I sincerely believe you are doing more to further its cause than any other one factor in this country today. Continue to be unafraid in your editorials, and you will continue to have the support of every one who has the future interest of aviation at heart.

FRANCIS H. SPICKERMAN, D.D.S.
Aviation Committee.

●

Tuscaloosa, Alabama,
November 23, 1943.

To the Editor:

I want to commend you on your forthright stand on the helicopter.

There has been entirely too much publicity in magazines and newspapers which tends to make the public believe that shortly after the war there will be helicopters for sale at a price that John Doe can afford and that they will be simple to operate and as safe as sitting on the front porch.

What we do need is the right kind of publicity, not a bunch of wishful thinking. Tell the public that we'll have planes for them to fly. That they will be as safe as an automobile is to drive ("it depends on the driver"). Tell them that they won't cost a fortune and will get cheaper as production increases. Tell them that we have the skilled manpower and the brains necessary to do a job of giving them the kind of flying that is sound and based on past experience in developing an industry and training men and women to fly and service aircraft.

We do need to look ahead into the future to a time when we can fly a car as well as drive it and to helicopters that are practical. That we will achieve remarkable things is a certainty, but in the meantime we must exist and have the business necessary to finance a progressive industry.

E. V. FRYHOFF,
Acting Airport Manager,
Foster Field,
Tuscaloosa, Alabama.

●

King City, Calif.,
November 22, 1943.

To the Editor:

Being vitally interested in the sales of private aircraft, this Company has long felt that commercial aircraft that is not fully developed and ready for large scale production should be kept on the secret list like military aircraft.

Sales and engineering, if handled correctly, work hand in hand. Engineering produces an article that is salable. The sales and revenue resulting from sale of said article produce a reserve which can further be employed in research engineering. When this flow of revenue is stopped, both sales and engineering suffer greatly. One of the easiest ways to stop this flow of revenue is to allow engineers to portray their ideas to the market both in tangible and intangible form months, even years, in advance of their models' adaptability to the present market, if they, as so often is the case, disturb the present market. They by their own folly scuttle themselves. For example, their actions make obsolete present models and destroy present sales. They themselves lose the funds available for further research and improvement on the future models made from present sales.

Aviation can well take a page from the formula of manufacturing as is the vogue in the automobile industry, namely, the great secrecy with which new models are engineered, designed and not shown until they are available for the market and then give it everything they've got. Like the automotive industry, the aviation industry must keep the present article salable at all times until said article is replaced by a newer model. If high sales are maintained and not disturbed by engineers' and manufacturers' advance information, then there will always be funds from those sales for further research. If this fact can be pounded home to sales, manufacturing and engineering, then your article, which William B. Stout criticized, will have done a great service for the aviation industry.

Letters

We have been a subscriber to AMERICAN AVIATION since its early inception. We have watched it continually play the role of the safety valve and when one phase of the industry gets the bit in its teeth and starts to run away with the ball to the detriment of the aviation industry, it has usually been AMERICAN AVIATION who has brought attention to that fact, allowing the whole industry to analyze the situation and working out the corrective action.

All one has to do to get a true picture of engineering versus sales is to review the innumerable different models of aircraft that were produced but never sold.

For your thankless job as safety valve, there are many who are truly grateful.

HARRY S. WHITE, President,
Palo Alto Airport, Inc.
King City, California.

●

Nov. 15, 1943.

To the Editor:

As an airline pilot I have become accustomed to looking forward to my *American Aviation* for the real aviation news, also your unbiased editorials, your printing of the pilots side of the story as well as the operators and others concerned. I feel that as long as this policy is maintained we will all move forward together.

AN AIRLINE PILOT.

●

Wichita, Kansas,
November 26, 1943.

To the Editor:

We take pleasure in congratulating you on two stories in the November 15th issue of AMERICAN AVIATION.

The first is your editorial on page 9 having to do with helicopters. What you had to say is something that has needed saying for a long time and no doubt will need repeating. Unquestionably the public has been misled with regard to helicopters and other dream craft. It seems to us that it is vital to the development of the personal airplane industry that we keep our attention focused on what we shall be able to offer the public if the war were to end this evening. And it may wind up just that quickly.

The second bunch of orchids go to you for your report of Continental Airline's milk run. This is most interesting and there is much in the story that we think is significant. Our interest at the moment is in the apparent indication in your story that C. A. L. is inclined to give private flying a pat on the back. We certainly hope this is true, since certain instances have been called to our attention concerning the attitude of some other airlines which is just the opposite. It is quite true that from one standpoint there will be competition between the airlines and the personal airplane but on the other hand we are interested in demonstrating the advantages of air transportation to the public and for a long time yet we will both gain by giving one another a boost. If you can tell us anything more about C. A. L.'s attitude in this regard or suggest to whom we might write for this information we will appreciate it very much.

DON VALENTINE,
Director, Public Relations
Cessna Aircraft Company,
Wichita, Kansas.

●

Springfield, Mass.
December 2, 1943.

To the Editor:

In reading the December 1, 1943, issue of "American Aviation," the article at the lower right-hand corner on the cover page dealing with Truckers' Applications for Air Routes filed with the CAB in which it is stated that opinion seems to be that the truck applications were "(1) for publicity, (2) a long shot, the companies being willing to risk the price of an application against the possibility that they might get a million-dollar air route," it appears that these generalizations are both unfair and misleading.

The purpose of this letter is not to precipitate an argument or a discussion on the merit of Applications filed by Truck Lines with the CAB, but to point out that the Application for a Certificate filed with the CAB by the Gilbertville Trucking Co., Inc., Gilbertville, Mass., on October 22, 1943, is neither for publicity nor a long shot risking the price of an application against the possibility of acquiring a million-dollar air route.

The purpose of the Application of the Gilbertville Trucking Co., Inc., is to operate an Airline for the transportation of property, and in the same manner that this Carrier has acquired a Certificate from the Interstate Commerce Commission for the operation of its trucking business, it proposes to endeavor to obtain a Certificate from the Civil Aeronautics Board to operate its proposed Air Service.

In view of the generalization which is published on the front page of the December 1, 1943, issue of "American Aviation" we believe it fair that you publish this statement with respect to the specific intention and purpose of the Gilbertville Trucking Co., Inc.

ARTHUR M. MARSHALL

●

(AMERICAN AVIATION was reporting opinion as expressed by certain air transport industry sources. Mr. Marshall's letter regarding the intention and purpose of the Gilbertville Trucking Co. application speaks for itself—Ed Note).

●

Los Angeles, Cal.,
Nov. 25, 1943.

To the Editor:

For your feeder-line re-naming "contest," may I suggest *citylink* lines. This name connotes the linking-in of cities with one another and with the mainlines.

Also, why not eliminate transpacific and transatlantic in favor of *global?* We would then have global, (trans)continental, and citylink lines.

R. A. MacDONALD,
1811 Malcolm Ave.,
Los Angeles, Cal.

●

Jacksonville, Fla.,
Nov. 24, 1943.

To the Editor:

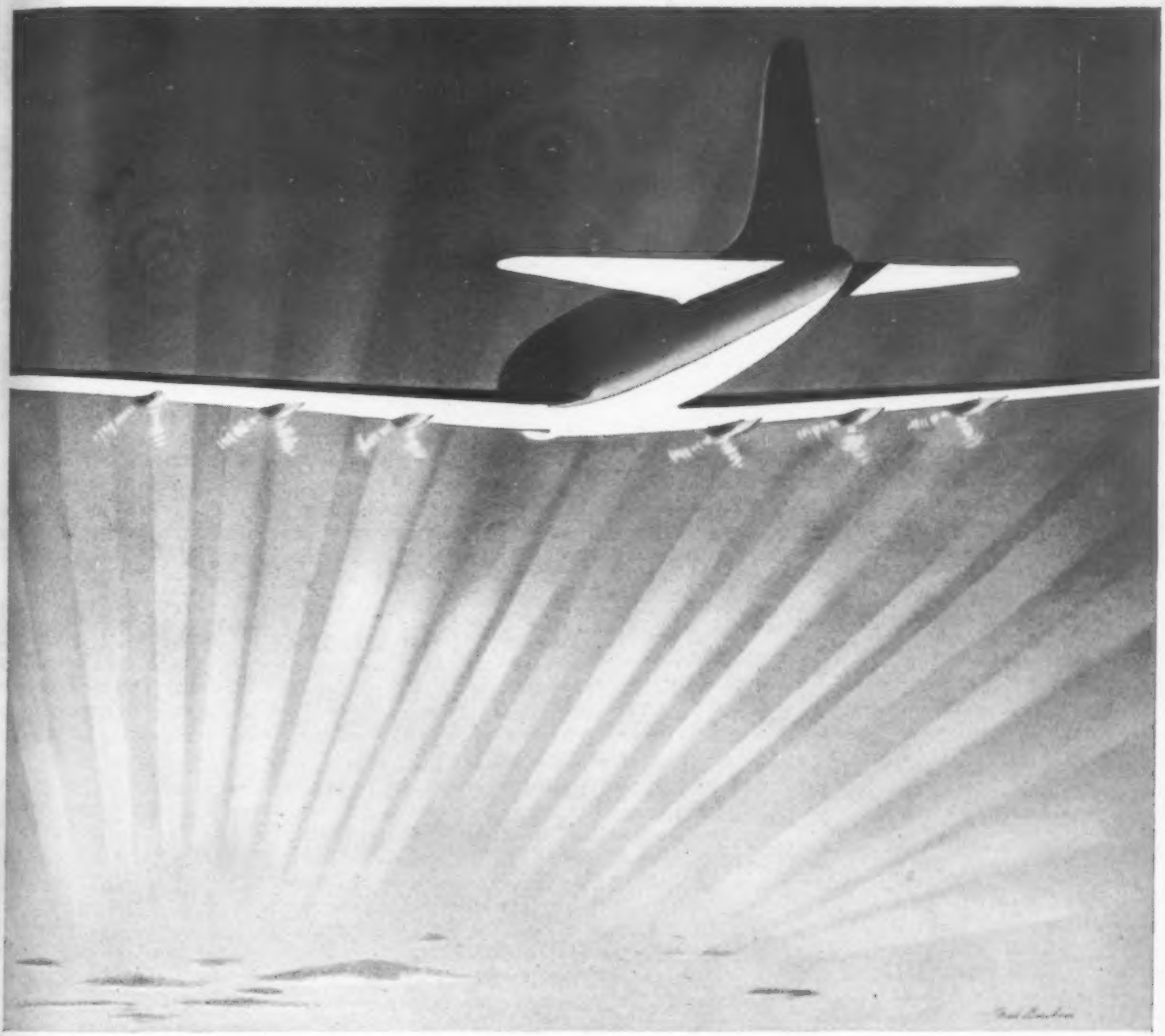
I noted with interest your article in the Nov. 15 issue concerning your trip over the "Big Horn" route of Continental Air Lines which you aptly termed a "milk run".

I thought you might be interested to learn that we operated a daily roundtrip to Miami from Jacksonville not more than two years ago that puts that run to shame. Our landings on Route AM31 at that time consisted of Daytona Beach, Orlando, Lakeland, Tampa, St. Petersburg, back to Tampa, Sarasota, Fort Myers, and Miami. All this was the total mileage of 454 miles. The longest sustained flight was approximately 48 minutes with the shortest one 12 minutes ramp to ramp.

Since that time we have suspended operations into Daytona Beach, St. Petersburg and Sarasota due to airport repairs and larger ships, but are still making five landings in 425 miles.

LEWIS W. DYMOND,
Chief Flight Supt.
National Airlines, Inc.

(Editor's Note: Thanks to Reader Dymond for the reminder, and all due credit to National for having operated a "milk run" exceeding that of Continental's for shorter distances between stops. We believe Northeast also set something of a record for the number of stops on its route north from Boston before some of the stops were suspended for the duration. Ye Ed has yet to make National's Jacksonville-Miami or Northeast's Boston-Moncton runs; will do so in due course).



New Horizons in the *Age of Flight*

Think how far you might have traveled in the past . . . the places you might have visited . . . the people you might have met — *if only you could have spared the time.* Your viewpoint of the world you live in would have been broadened immeasurably.

Before air transport was developed, crossing the country took four or five days each way. Going to Europe meant nearly a week at sea, South America three weeks, the Orient a month.

The Age of Flight will demonstrate to everyone everywhere that time is no longer a major obstacle to travel. For each hour will carry you more miles than ever before.

No two cities anywhere in the United States will be more than a few hours apart. Frequent, regular airline service will take you to South America in a day, or across the Atlantic overnight.

Along with this greatly expanded air travel, *all* forms of transportation will have bigger responsibilities . . . new cargoes to carry . . . more people to serve.

And *you* will train your sights on a new world. All of its marvels will be brought within your reach. You will have new markets to sell . . . new goods to buy. You will see new horizons in the Age of Flight.

TIME-TABLE FOR THE AGE OF FLIGHT

From	*To*	*Air Miles*	*Today (or pre-war)*	*To-morrow*
New York	San Francisco	2678	19¾ hrs.	10 hrs.
Chicago	Singapore	9365	6½ days	48 hrs.
Washington	Moscow	4883	51 hrs.	21 hrs.
New York	London	3460	20 hrs.	14 hrs.
Chicago	New York	747	4½ hrs.	3 hrs.
Los Angeles	Seattle	1019	7½ hrs.	4 hrs.
Portland	Philadelphia	2608	18¼ hrs.	10 hrs.

★ *Buy War Bonds and Stamps for Victory* ★

UNITED
AIR LINES
THE MAIN LINE AIRWAY

Obituaries

Hans J. Lubig

Hans J. Lubig, 43 years old, German-born airport designer attached to the Civil Aeronautics Administration's Airways Engineering Division, died last fortnight in Florida. He was on a year's leave of absence due to ill health. Lubig served as an aerial observer in the German Army during World War I. He came to the United States in 1926 after having been associated for several years with the London-Cologne Airline. In 1928, he assisted Clarence Chamberlain on his New York-Washington airline. Later, he was manager of the Holmes Airport on Long Island. Lubig joined CAA as a draftsman in 1938. He was soon promoted to the Airways Engineering Division where he perfected the Lubig Central Airport Design, featuring a central operations base with runways arranged about it in such a manner that no aircraft actually in motion could ever cross the path of another. This design was acclaimed recently by the Air Traffic Control Division of CAA's Office of Federal Airways as "ideal from the airport traffic control viewpoint."

Murrell D. Dice

Murrell Don Dice, 44, flight operations manager at Consolidated Vultee Aircraft Corporation's Fort Worth, Tex., plant, died Dec. 4, three days after an automobile accident in which he was critically injured. Dice, a former American Airlines and Delta Airlines pilot, was a veteran of more than 20,000 hours in the air

Maxwell Jay Rice

Maxwell Jay Rice, assistant vice president of Pan American Airways, Inc., died Nov. 30 at Presbyterian Hospital in New York at the age of 43.

Born in Newark, N. J., May 9, 1900, Rice began his business career as European director of Associated Tours, Inc., and assistant to the president of the ANSCO Corporation of Binghampton, N. Y.

In 1928 he became associated with Pan American Airways, less than a year after its inception. Subsequently he served as South American regional director of Pan American, as vice president of Compania de Aviacion Pan American Argentina, as vice president and general manager of SCADTA, now Aerovias Nacionales de Colombia, AVIANCA—Pan American,—and as president of Pan American's affiliate in Brazil, Panair do Brazil. He was appointed assistant vice president of Pan American in 1942.

Rice was widely known throughout Latin America. He held pilot licenses in Brazil and Argentina and at one time made survey flights over unchartered regions of the Amazon River for Pan American.

At one time president of the American Chamber of Commerce for Brazil, Rice was a close friend of Brazil's president, Getulio Vargas and from the Brazilian government received the Order of the Southern Cross for his "extraordinary accomplishment toward the betterment of relations between Brazil and the United States."

Editorial

(Continued from page 9)

matter of fact an order had been issued in July, 1943, according to a document in our possession, holding in abeyance all charges "against the U. S. Armed Forces for passengers and freight," but it was not until October, or early November, that the order was issued "to make no charges of any kind for the carriage of U. S. military and official traffic and freight." A few invoices pending will not be pressed for payment.

We think this is fair, but we still wonder why it took so long—and a little publicity and protests by U. S. officials—to put air transportation in wartime on a reciprocal basis. Our Air Transport Command certainly makes no charges of any kind for carrying British passengers and cargo in and through the war areas, or anywhere else for that matter. Since BOAC is strictly a government airline, and hence not accountable to stockholders as a private venture, it should not have taken so long to work out an agreement, especially since the airplanes it flies are mainly those obtained from us through lend-lease. But we're glad to write a finis to this one particular incident.

Its Full Chance?

IN ONE of his recent syndicated newspaper columns David Lawrence said "Airpower is being given its full chance to bring Germany to the point of surrender. But there are few here who are ready to say that airpower alone will do the job."

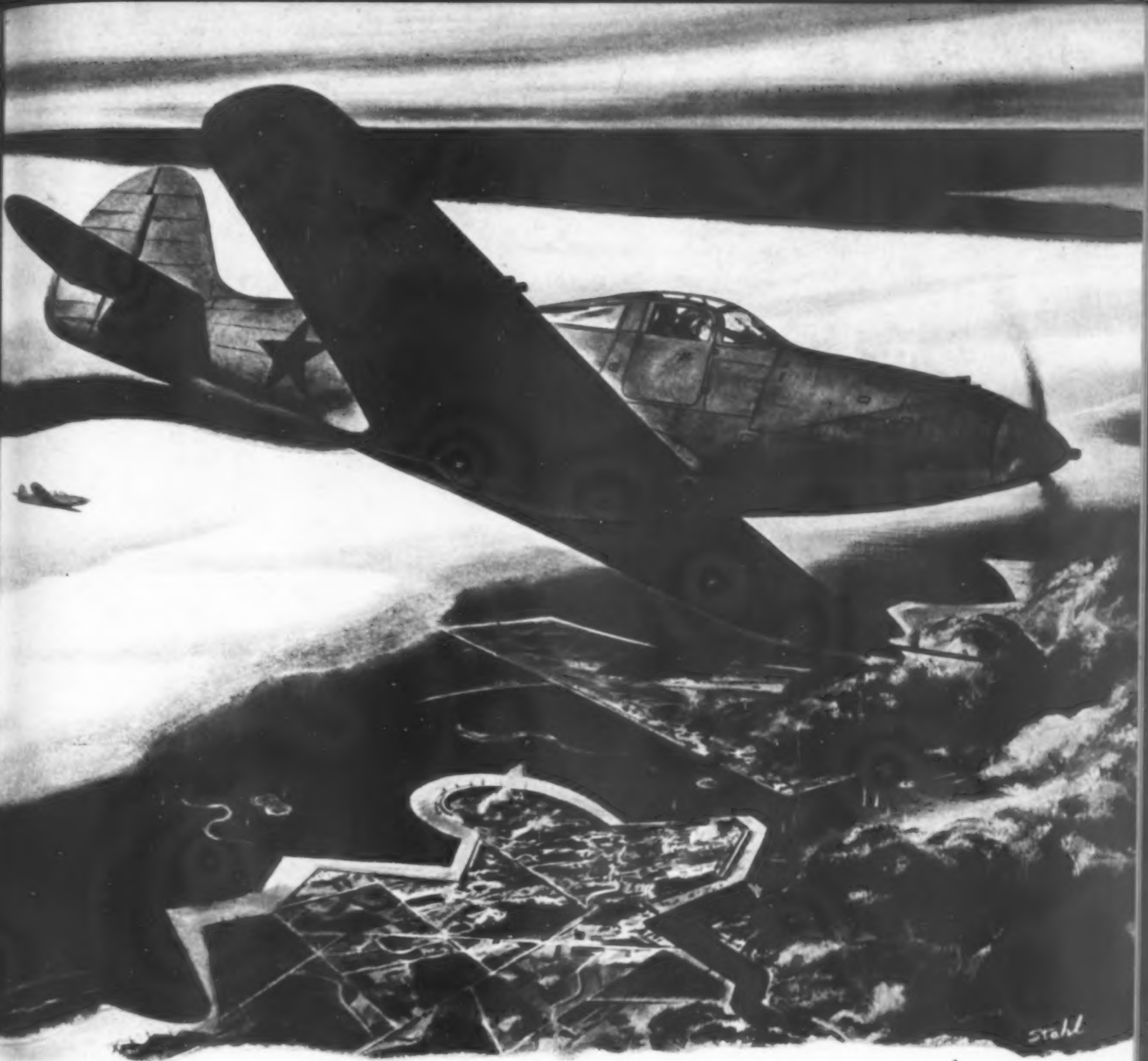
Great and wonderful as the work of the RAF and the AAF have been over Germany too many commentators are assuming that both of these air units are doing all that is capable of being done by airpower. They should remember that the RAF and the AAF are only doing the best they can with what they have. For several years the RAF bomber command has been doing its utmost with the bombers it was given to work with, but never for a moment has the RAF considered that it had nearly enough to demonstrate the full utilization of airpower. As for our own fine Eighth Air Force, how long it waited for enough Flying Fortresses to begin a few air attacks! How far short of its requirements it has been!

So when columnists talk about the "full chance" that airpower is being given, measure the term relatively. What Germany has experienced is not total airpower. It has only been on the receiving end of that percentage of airpower that could be scraped together and allocated out of the world requirements. Is there any news writer who honestly believes Germany could stand up under *real, consistent, and full-out* airpower for more than a short time? The boys have performed miracles with what they have had. Would that they could have had the airpower they wanted, for Germany would have been out of the war all the sooner.

Prayers Answered

A FEW ISSUES ago we commented editorially that there were enough surplus guards on duty in war plants and at airports to fill almost every manpower gap in the country. We pleaded for a sharp reduction in guard force personnel. Whether our editorial praying had any direct returns is beyond our own knowledge, but the fact remains that the War and Navy departments a few weeks later jointly announced that the number of men and women engaged in guard duties at privately operated war plants will be reduced "to provide more manpower for the vitally needed production of war materiel." Even the use of Auxiliary Military Police will be discontinued in a number of plants. We certainly believe in all necessary and adequate protective measures being taken at war centers, but are glad to see the War and Navy departments take cognizance of what has obviously been a surplus and a waste of guard personnel who could be better utilized in production work.

WAYNE W. PARRISH



Upstairs Entrance to Hitler's Fortress

Hitler built himself a European Fortress.

Without airpower, it might have been invulnerable for many, many years. But thanks to airpower, thanks in good measure to the American aircraft industry and the U. S. Army Air Forces, we were invading Hitler's Fortress from the sky a year and more ago.

Allied bombers and fighters roar through the vulnerable upstairs entrance from bases in Britain, Africa, Sicily, Russia...

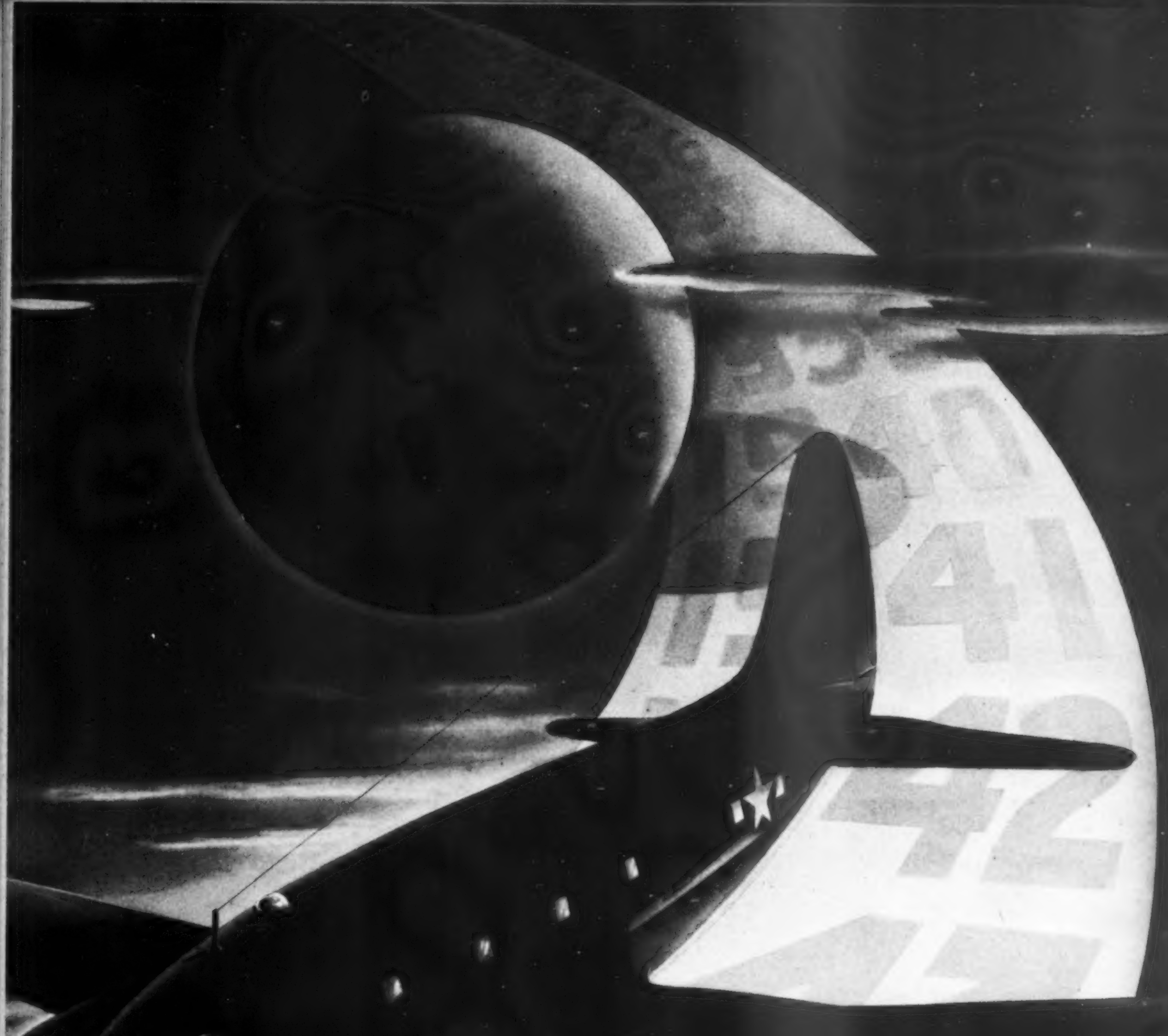
A single fighter plane of the Red Air Forces has thirty-one little stars painted on its fuselage. Each star represents a German plane shot down. Each Nazi plane destroyed makes it that much easier for our airpower to pour through the upstairs entrance. Thirty-one kills may or may not be a record for a single fighter plane. It's a record we're proud of—because that plane was a cannon bearing Bell Airacobra.

There'll be an "upstairs entrance" to a better world of peaceful travel and commerce. It will take greatly advanced planes, designed for specific jobs. We're used to breaking with precedent in the design and construction of aircraft. We'll welcome new, peacetime assignments. © Bell Aircraft Corporation, Buffalo and Niagara Falls, New York.

BELL *Aircraft*

AIRACOBRAS for victory—future planes for peace

UY WAR BONDS AND SPEED VICTORY



TO A NEW WORLD OF FLIGHT

The advent of huge numbers of giant troop and cargo ships of the air—with their capacity for swift movement of men, arms and supplies—is altering the entire strategy of war.

Today they serve to hasten the war's end—but in the world of tomorrow they will blaze new airways of global commerce.

In the forefront of this significant development is Curtiss-Wright, builders of the world's largest twin-engined transport, the Curtiss Commando.

CURTISS WRIGHT
Corporation
AIRPLANE DIVISION
BUFFALO • COLUMBUS • ST. LOUIS • LOUISVILLE

Member: Aircraft War Production Council, East Coast, Inc.

CURTISS *Commandos* FOR CARGO AND COMMERCE

New Booklets

A catalog of available material of the U. S. Army Air Forces has been published by the 830th Army Air Force Specialized Depot, 3300 Jackson Avenue, Memphis (1) Tenn. The catalog may be obtained free by writing the Tennessee Air Force depot. Purchases of material may be made by authorized manufacturers.

A pamphlet entitled, "Effect of Airplane Weight Upon Rate of Climb," has been published by the Safety Regulations Division of the Civil Aeronautics Administration. It is labeled Flight Engineering Report No. 10, Safety Regulation Release No. 150 and may be obtained by writing CAA.

Walter Kidde & Co. Inc., 140 Cedar Street, New York (6) N. Y., has published a 16 page booklet entitled "Winged Cylinders" descriptive of the use of high-pressure gases in saving the lives of American fighting men. The booklet is available for free distribution.

Airlines War Training Institute of 1740 G Street, N. W. Washington, D. C. has announced the publication of a booklet entitled "Refueling the Airplane." The booklet, prepared for Line Service Crews, is written in simple language, under a variety of sub-heads relating to various phases of refueling operations. The booklet is illustrated.

A pamphlet entitled, "Increasing the Durability of Casein Glue Joints with Preservatives," is announced by the Forest Products Laboratory, U. S. Department of Agriculture, Madison, Wis. This report, No. 1332, is one of a series issued in cooperation with the Army-Navy Civil Committee on Aircraft Design Criteria under the supervision of the Aeronautical Board. Another in the series is "Chemical Stain in Noble Fir as Related to Strength." Report No. 1329. A third is entitled, "Suggestions and Instructions for Kiln Operators Drying Aircraft Lumber," No. 1362.

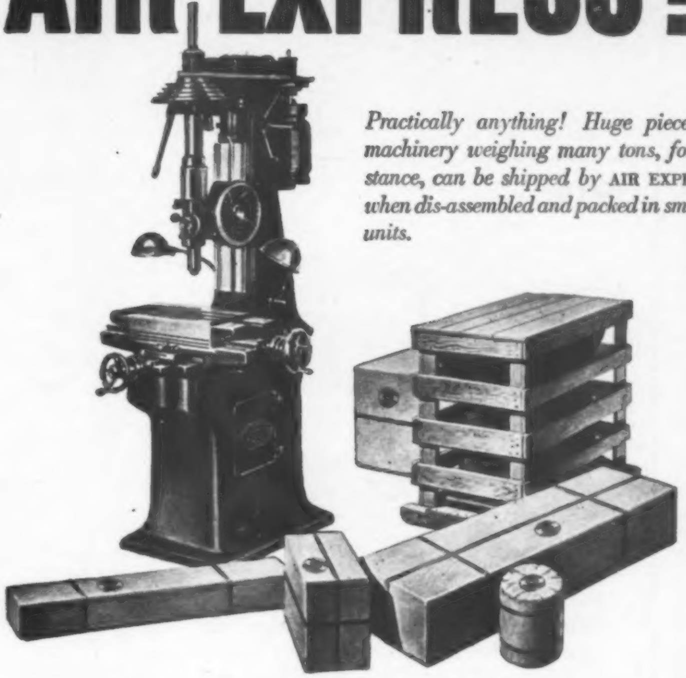
The Aircraft Engineering Division of CAA has issued Safety Regulation Release No. 154 entitled, "Cracking of Wood Wing Spars in Airplanes Operating in Arid Regions." The information in the release was prepared by Aircraft Engineering Division.

The Flight Engineering and Factory Inspection Division of the Civil Aeronautics Administration has released its study entitled, "A Study to Determine the Maximum Weights Permitted by the Transport Category Requirements for the Douglas DC-3 Airplane." It is known as Flight Engineering Report No. 9.

The Connecticut Development Commission, State Office Building, Hartford, has for limited distribution to interested manufacturers an illustrated booklet entitled, "Connecticut . . . Center of Aviation." Stressed particularly is the State's reservoir of skilled mechanics. The booklet was published by the Commission and designed by the Charles W. Hoyt Advertising Agency.

What can go by

AIR EXPRESS?



Practically anything! Huge pieces of machinery weighing many tons, for instance, can be shipped by AIR EXPRESS, *when dis-assembled and packed in smaller units.*

If your shipment can go by rail, it can usually go by AIR EXPRESS, providing it fits into an Airline Transport (when oversized, the shipment can often be dis-assembled into smaller units).

No special packing is needed, either. In fact, the careful handling so typical of AIR EXPRESS eliminates the need for expensive cases or massive crates. Consequently, when you pack for AIR EXPRESS, *pack compactly*—thus reducing weight and shipping cost. And for fastest delivery—*ship when ready*—as early in the day as possible.

This 3-mile-a-minute service is available direct to more than 350 U. S. cities and to scores of foreign countries.

AIR EXPRESS RATES REDUCED

As a result of the great volume of Air Express traffic created by wartime demands and the increased efficiency developed to satisfy these demands ...Air Express rates within the United States have been substantially reduced, in some instances as much as 12½%, depending on the weight of the shipment and the distance it moves. Consequently, shippers nationwide are now saving an average of 10½% on air cargo costs.

ASK for our new 1943-44 CALENDAR-BLOTTER. Write Dept. PR-13, Railway Express Agency, 230 Park Avenue, New York 17, N. Y.

AIR EXPRESS

AIR EXPRESS

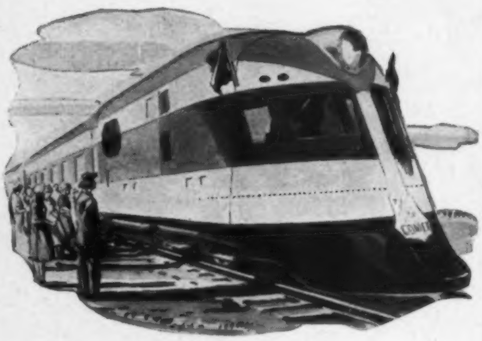
Gets there FIRST

Phone RAILWAY EXPRESS AGENCY, AIR EXPRESS DIVISION

Representing the AIRLINES of the United States

Trail Blazing in the Skies

1935



FIRST STREAMLINER BUILT ON AERONAUTICAL PRINCIPLES was the famous "Comet," designed and fabricated by Goodyear's Aircraft division in 1935 for the New York, New Haven & Hartford Railroad. In the Comet, lightness-with-strength was achieved by designing roof, sides and floor of the cars as main load-carrying elements of the structure — the same stressed-skin or monocoque construction widely used in aircraft. This undertaking was part of Goodyear's early work in exploring the possibilities of light aircraft metals that contributed to the development of the superior alloys in use today.

1943

METALCRAFTING EXPERIENCE THAT STREAMLINES MANY PRODUCTION PROBLEMS. As a result of its long experience in aeronautical design and light-metal fabrication, Goodyear is today one of the largest producers of subassemblies for all types of aircraft. These include complete empennages and wing panel assemblies, and all their component parts, cabin structures, floats, and float mechanisms — for both "hot" fighters and heavy bombers. And in addition Goodyear is one of the producers of the Corsair — a fact that bespeaks Goodyear's ability to handle complete and intricate production problems on a large scale.

HOW GOODYEAR AIRCRAFT CORPORATION SERVES THE AIRCRAFT INDUSTRY

1. *By constructing subassemblies to manufacturers' specifications.*
2. *By designing parts for all types of airplanes.*
3. *By re-engineering parts for mass production.*
4. *By extending our research facilities to aid the solution of any design or engineering problem.*
5. *By building complete airplanes and airships.*

BUY WAR BONDS to Speed Victory

GOOD YEAR

GOODYEAR AIRCRAFT

Vol. 7 No. 14
Dec. 15, 1943

American Aviation

Net Paid
9,218
This Issue

NATA Asks Simplified Air Regulations

Changes Name to National Aviation Trades Association; Turner Named President

By Wayne W. Parrish

WITH the largest attendance of fixed base operators in aviation history, the fourth annual convention of the National Aviation Training Association elected Roscoe Turner, president of Turner Aeronautical Corp. of Indianapolis, as president and went on record against the pending Lea bill in its present form, protested against ever-increasing government regulations, and asked for a continuance of the federal pilot training program.

Looking toward the day when federal-subsidized pilot training will be concluded, NATA adopted the new name of National Aviation Trades Association, retaining the same initials, and agreed to work for the interests of all fixed base operators in the postwar.

The annual sessions were held at the Hotel Jefferson, St. Louis, coincident with the first annual meeting of the Aviation Distributors and Manufacturers Association. NATA registration passed the 450 mark, while the ADMA and outside guests amounted to another 150. It was the largest gathering of operators, manufacturers and other aviation leaders in many years with attendance about three times greater than anticipated.

Other new NATA officers elected were: F. Leslie Marsden, Buffalo, N. Y., 1st vice president; Henry von Berg, Carson City, Nev., 2d vice president; Leslie H. Bowman, Fort Worth, Texas, retiring president, chairman of the board. John H. Wilson, of Lockport, Ill., remains as executive director, and Mrs. Ena Pugh, Kansas City, Mo., as secretary.

New Governors are: First Region, Ray Hyland, Rochester, N. Y.; Second Region, W. F. Underwood, Atlanta, Ga.; Third Region, Arthur Curry, Galesburg, Ill.; Fourth Region, Clent Breedlove, Lubbock, Texas; Fifth Region, F. C. Anderson, Des Moines, Iowa; Sixth Region, Henry von Berg, Carson City, Nev.; Seventh Region, Gwin Hicks, Coeur d'Alene, Idaho.

Resolutions adopted unanimously and without floor opposition included one stating that NATA is not in favor of H. R. 3420 as now written and requesting a hearing. Another resolution pertaining to national legislation read as follows:

"Be it resolved that legislation pending in Congress on the subject of revision of the Civil Aeronautics Act of 1938 shall provide: A. That there shall be no possibility for a monopoly or near monopoly of air transportation to develop in this country or any section thereof; B. Federal regulation of air traffic and safety."

There was no debate or discussion on the floor of the Lea bill, but informal discussions indicated that NATA is generally in favor of uniform federal regulations, especially for traffic and safety, but not in favor of federal enforcement. There was no discussion of the points of the Lea bill to which NATA is opposed.

On the question of regulation, the convention adopted a resolution stating that "whereas wise regulation by governmental agencies is necessary in the public interest, that nevertheless such regulation, again in the public interest, be simple and easy to understand and kept at its constructive minimum."

Another resolution called for the present federal training program to be continued for the duration of the war, and after the cessation of hostilities, by extending the Civil Pilot Training Act of 1939, which expires June 30, 1944. All of the operators are aware that all training contracts will elapse next June 30 unless Congress extends the life of the act or provides new authorization.

NATA also asked the relaxing of some of the wartime restrictions imposed on private flying, commended the War Department for making air power co-equal with land power in the field, asked for a special federal commission to handle the disposition of surplus aviation equipment after the war, and called for the

(Turn to page 20)

NATA 'Tired of Being Kicked Around'; Turner Promises Fight

IN HIS ACCEPTANCE address as president of the NATA, Roscoe Turner minced no words in warning "government parasites" that NATA would battle to protect its own interests and was tired of being "kicked around" by Washington officials. Turner was so excited on assuming office that he forgot one page of his four-page address.

"Aren't you tired of being kicked about and told how to run your business by people who have never been in business in their whole life?" he said. "Don't misunderstand me. There are a lot of good practical men in government that have been successful business men, but there are a lot of parasites that if you take that government teat out of their mouth, they will starve to death." (Newspapers altered their stories to 'government udder'.)

"Now what we are going to be—men or mice? Are we going to make the people in government 'servants of the people' or are we going to be lulled to sleep and become slaves of bureaucracies?"

Warning that the operators must stick together Turner said "there are a hell of a lot of operators who are going to go broke because we didn't have enough sense to get together in a concerted drive before now."

"Aviation was built on hamburgers and, although I am not as young as I used to be and the hamburgers are at their lowest ebb in history, I can eat them again if it proves necessary.

"But this splendid assembly has given me new hope. I can see steaks (spelled s-t-e-a-k-s, if you please) on the distant horizon provided only if I can instill in you the spirit of hard work, close co-operation and plenty of guts. So, if you want steaks too, be resolute and put on your spurs because you are going to have to ride for your life.

"The base operators can control about 85% of aviation's activities, if they will stand together, work together and keep striving to do a better job. Why? Because every airplane that flies, other than the airlines, will come to you for something. If you do the job well, the owner or pilot will continue to come back.

"Up to now you have been individualists—and pretty rugged too. But today we have reached the point where the individual doesn't make much of a mark alone. It is, 'Who do you represent, and how many,' As an individual in Washington today you have as much of a chance as a snow-ball in hell.

"But collectively you can make a lot of things happen.

"Do you stop to realize that we represent more Congressional districts than any other group in aviation? What are we going to do about it? Have you made it a point to get acquainted with your Congressman and Senator? He will talk to you and when you show him that you have spent all these years in the practical side of aviation trying to build it up, not because you were making money out of it, but because you believe in its future, for God knows you could have made twice the money with half the effort in most any other business, your Congressman and Senator will listen to you."

Peak Output of 8,789 Planes in November

WPB, Army, Navy Officials Praise Industry; West Coast Plays Important Role

THE UNPRECEDENTED PEAK of 8,789 airplanes, produced during November, brought acclaim from WPB, Army and Navy officials in Washington during the past fortnight.

"An almost unbelievable accomplishment," said War Production Chief Donald Nelson.

"These aircraft companies deserve a special roll of honor," added Navy Secretary Knox.

A major contribution to the month's rise of 427 planes over all previous totals came from the West Coast's aircraft plants.

Stace

"Breaking all records these plants produced 2,581 planes during the month," announced Brigadier General Donald F. Stace, AAF Materiel Command's Western District Supervisor.

For the first time in many months aircraft production also came close to achieving the monthly goal established by WPB. Reaching 97% of the month's goal, it brought the total of planes produced this year to 76,000. Washington officials were confident the industry could meet the year's schedule of 85,000 by the end of December.

"Airplanes rolled off the production lines continuously day and night at a rate faster than one-every-five-minutes, exceeding October output, despite the shorter month," Nelson said.

He pointed out that last month the daily average was 338 finished planes each working day, including Thanksgiving, whereas in July, 1940, only 572 planes were produced in the whole month. In two days last month the factories turned out more than that entire month's production. November's total was fifteen times more.

"Although the sustained accomplishment of the aircraft industry and its workers is almost unbelievable," Nelson said, "the increase in numbers alone does not tell the whole story."

He revealed that the average weight of each plane produced in November was more than double that of those produced in July, 1940. Then, about half of the total were trainers, but last month's output was largely combat types of which more than 1,000 were four-engine bombers.

The total weight of airplanes, including spare parts, produced in July, 1940, was only 2,300,000 pounds compared to 81,500,000 pounds in November, 1943. Another measure of progress is sustained acceleration. Nelson said that during the expansion period, month-to-month increase in weight of output has averaged 9.4%.

From Boeing and Douglas come reports confirming the important role played by heavy bombers in the month's production achievement. Ten per cent higher production of Flying Fortresses attained at Boeing was made possible, President P. G. Johnson revealed, through further increases in employment, fuller development of the branch plant programs in Western Washington, and continued improvement in efficiency and production techniques. A net increase of over 6,000 workers in the past three months brought a gain of over 20% in production, he said.

Douglas plants surpassed October levels by 14%, but perhaps more important, Vice President F. W. Conant said, Douglas' output of Flying Fortresses and Liberators ran 15% over military commitments.

"Ever greater numbers of yet larger planes" are needed, however, to make up battle losses and increase our striking power. Nelson asked that output increases be maintained in spite of continuing growth in plane size, manpower shortages, and changes in types and equipment. He said concentration on production efficiency and manpower utilization would achieve this result.

Navy contractors turned out well over 2,000 of the plane total, Secretary Knox revealed. He acknowledged particular gratification for the excellent fighter plane record, since the Navy had set "extremely steep" schedules to make up for delays caused by the introduction of two new types, the Corsair and Hellcat.

"The principal plane producers for the Navy either met or bettered their very ambitious schedules during November," he said. If there could be a special honor roll of companies which achieved unusually excellent records, Knox said he would nominate Chance Vought Division of United Aircraft, Douglas, Grumman, Consolidated, Glenn Martin, Vega and Eastern Aircraft Division of General Motors.

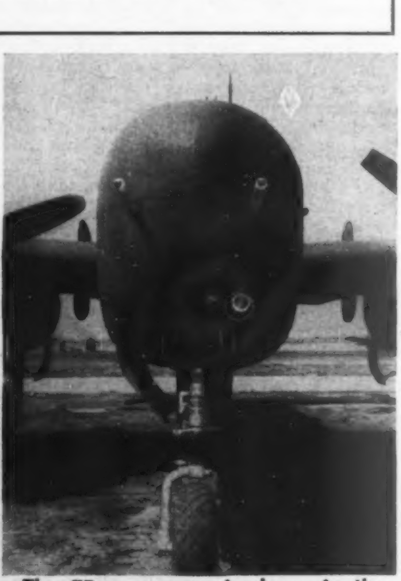
B-25 Gets a 75mm Cannon

A CANNON, which long has been familiar as an artillery field piece, has been installed in the B-25 Mitchell bomber. The 75-millimeter gun, designed to attack land vehicles and installations, and make forays at sea against Axis shipping, has seen action on Mitchells in the South Pacific, the War Department announced last fortnight.

North American Aviation, makers of the B-25, made the cannon installations possible through development of a special type recoil device, the announcement said.

"First use of the cannon-firing B-25 was against the Japanese in New Guinea, when it joined in action against a Japanese air transport, which was destroyed as it made a landing," the announcement continued. "Stalking larger game in the same area, the B-25 was sent against the larger of two Japanese destroyers. Five direct hits were scored and the warship was left in a sinking condition."

The War Department claims the 75's use in a bomber is advantageous because many targets are more vulnerable to shells fired at their sides than to bombing. It is said the cannon, as adapted to the B-25, is a rapid-fire weapon.



The 75mm cannon is shown in the nose (lower right) of a B-25. The weapons above are 50-calibre machine guns.

Al Williams Named Technical Consultant To Army Air Forces

Al Williams, the former Navy a Marine Corps flier, is to give a secon series of demonstrations of "fighter technique" for Army Air Forces aviati cadets, the War Department announce last fortnight. The series, similar to th given by Williams for the AAF Trainin Command last May, is designed to ma the cadets more expert in precisi flying.

The former ace, who has held a numbe of airplane speed records, and was t first to record stress on outside loo uses a fighter type plane in his routi of spins, rolls, loops, and stalls. He h been appointed for duty without compensation as a civilian technical consultant to the Assistant Chief of Air St Training, AAF. He will operate fr headquarters of the Training Comma at Forth Worth, Tex.

Williams' first series of demonstratio was at advanced pilot training scho The new series will be at basic pilot trai ing schools.

ATA Sees Need for 'Sounder Balance' Among Airlines

THE securing of a sounder balance among the airlines "and preserving a proper balance in the future in order that the welfare of no group of airlines will ever be unduly dependent upon any other group of airlines or permanently dependent upon government subsidy," was advocated by the Air Transport Association on Nov. 30.

The statement was made by the ATA as an important list of points which it urged the Civil Aeronautics Board to consider in connection with the feeder-pickup investigation.

Sounder balance, ATA said, is a vital consideration not only in dealing with the feeder situation but also in connection with the larger problem "of soundly developing and expanding the entire domestic air transport system."

The statement was considered especially significant because it came at a time when the Lea bill was pending in Congress and when the "Big Four" was being accused of doing most of the air transport business, with the smaller lines dividing the rest. CAB Member Oswald Ryan had gone on record, shortly before the ATA statement, favoring strengthening the smaller lines.

The ATA went strongly on record against participation of surface carriers in aviation, and also pointed out that "every present and future airline has a public obligation to render adequate local service as required by the public convenience and necessity which is equal to its obligations to render long haul through service."

Text of the ATA statement follows:

"1. A determination of the so-called feeder problem should be guided by the principles of the Civil Aeronautics Act, as prescribed by Congress, calling for *a system* of air transportation. The problem should be dealt with as a part of and in relation to, the larger problem of soundly developing and expanding the entire domestic air transport system.

"2. One of the most vital considerations in dealing with the so-called feeder problem, or any other phase of the larger problem just referred to, is that of securing a sounder balance among the airlines and preserving a proper balance in the future in order that the welfare of no group of airlines will ever be unduly dependent upon any other group of airlines or permanently dependent upon government subsidy.

"3. It has been a fundamental principle throughout the development of America's air transportation that safety and operating standards should be maintained at the highest possible level and should be constantly improved—often regardless of cost. The American record when held up against the record of other countries presents a startling contrast. This record is very largely responsible for the high level of development of American air transportation. In considering the so-called feeder problem, a firm stand should be taken against any relaxation of safety and operating standards for the protection of human life.

"4. Every present and future airline has a public obligation to render adequate local service as required by the public convenience and necessity which is equal to its obligations to render long haul through service. This obligation extends not only to points which may at any particular moment be specified on its certificated route but also to other points which the CAB deems it to be appropriate to add to such route.

"5. Surface carriers should not be permitted by the CAB to engage either in so-called feeder or in trunk line air transportation. Air transportation remains only at the threshold of its development. To place it in the hands of surface carriers, directly or indirectly, will only enmesh air transport in the problems of the older forms of transport in the solution of which but little progress has been made in years. Air transportation should not become an instrument for furthering the conflicting policies of various surface carriers, nor should it be subordinated to the welfare of the more powerful financial interests heavily involved in the surface carrier business. The CAB Feeder Investigation should include careful examination of: "(a) The history of the branch and short line rail and motor operations, including, among other things,

(i) the absorption of initially independent interests by the larger lines,

(ii) the extent to which the branch and short lines have been dependent upon divisions of rates having no rational relationship to the portion of a through service rendered by the branch and short lines,

(iii) the problems created by substandard operating, labor, equipment and other conditions on the branch and short lines, and

(iv) the general financial history of the branch and short lines.

"(b) A survey of traffic flows and volume, at least in the passenger field, among selected communities in the 5,000-25,000 population range. Such a survey never has been made. It could be made within a reasonably short time. The assistance of Chambers of Commerce, through the U. S. Chamber, should be enlisted. The Feeder Investigation has thus far disclosed no substantial traffic data of this character."

AAA Joins AITAC

American Aviation Associates, Inc., publishers of AMERICAN AVIATION, has become an associate member of the Air Industries and Transport Association of Canada, comprising the entire aviation industry of that country.

Rear Admiral Rosendahl Honored

Rear Admiral C. E. Rosendahl, the Navy's leading exponent of lighter-than air craft, was awarded the Frank Hawkes Memorial Award of American Legion Air Service Post 501 Dec. 1 by Mayor F. H. La Guardia of New York, who won the award in 1940.

"You have made as great a contribution to aviation as anyone living," the mayor told Rosendahl.

Newly Elected Officers of AITA

R. B. C. Noorduyn (right) was reelected president and Walter F. Thorn was named general representative at the recent convention of the Air Industries and Transport Association in Toronto, Ont. The association went on record as favoring the immediate creation in Canada of a "central, free, and independent government authority for civil aviation."

Industry Develops Accurate Labor Audits

West Coast Forecasts, Called 'Scientific' by ARCO, Aid in Manpower Stabilization

By Clifford Guest

ON ITS own initiative through procedures devised by the Aircraft War Production Council, the West Coast aircraft industry has made such important strides in solving and stabilizing manpower and labor utilization problems that government and military officials are on record advocating their adoption on a nationwide basis.

In contrast to the confusion which existed six months ago, the industry is now able to forecast its labor requirements with great accuracy—an accomplishment termed by one Government spokesman as a reduction of labor forecasting "virtually to a science."

New details of the West Coast developments became known following a recent tour made by a group of Washington officials studying manpower utilization and requirements under Brig. Gen. Frederick M. Hopkins, chief Resources Division and assistant chief of materials, maintenance and distribution, Army Air Forces.

Dr. A. E. Lombard, Jr., chief of the Manpower Division, Aircraft Resources Control Office, a member of the touring group, praised the manpower audit recently undertaken by the West Coast council members, called the forecasting a virtual science, and said the audit provides a sound basis for manpower requirements. He said there is now very little variation between the industry's figures and those of ARCO and Wright Field. Gen. Hopkins confirmed this observation, and it was suggested by other officials that the National AWPC be notified of the accomplishments of the West Coast plants in gauging manpower needs.

On the basis of their accuracy, the War Manpower Commission, it was revealed last week, is now using the forecasts in computing national manpower requirements for the next six months.

The voluntary manpower audit was originated by the Pacific Coast industry when, in mid-October, each company was asked to submit a revised forecast of the manpower required to meet the new realistic production schedules. To insure the validity of the industry's claims upon manpower, the newly formed AWPC Production Expediting Committee set up a manpower audit group to examine objectively each company's forecast and to make known its findings to the industry and to the government agencies concerned.

J. S. Smithson of North American Aviation, Inc., was named chairman of the group which included three specialists, Robert Lewis of Vega, R. A. Hall of Douglas, and Joseph Yankie of North American—all working with an AAF observer.

A preliminary audit of the eight Los Angeles area plants was completed and submitted to the Washington officials upon their arrival on the Coast. The preliminary summary of findings emphasized that the problem of securing necessary additional direct workers is particularly important—a net decrease of approximately 18,000 direct employes having been shown since March, 1943. The forecast for indirect labor requirements for present schedules shows a continued decline, and all plants were reported taking steps to enforce a reduction in the indirect ratio.

In addition to Gen. Hopkins and Dr. Lombard, other government officials who toured the Coast plants included: Col. E. W. Rawlings, administrator of Aircraft Scheduling Unit; Col. W. D. Eckert, comptroller, Materiel Command, Wright Field; Col. W. S. Cave, British Air Commission representative on ASU; Lt. Col. Dan Silberberg of General Arnold's staff.

Meanwhile, the Manpower Audit Committee also was studying in-plant labor pools which were reported operating successfully at Lockheed and Douglas with considerable saving of man hours. Similar pools are being considered at other factories and study of work simplification is continuing.

The Production Expediting Committee also has been requested to lay plans for setting up labor utilization teams, similar to those used for the manpower audit, to cooperate with AAF representatives in further improvement of labor utilization.

In addition, George C. Chesney, WMC labor utilization expert who has been making a survey of methods used by Boeing Aircraft Co., was scheduled to report to the audit panel all new ideas gleaned from that study.

Government officials, commenting on their West Coast findings, said that all Coast factories are now on schedule daily, instead of meeting requirements by month-end expediting. They declared that the Production Urgency Committee and the Manpower Priorities Committee, created by the West Coast Manpower directive, have adopted adequate procedures for setting manpower ceilings and priorities.

Working under the same committees are two other sections—the Wage Incentive Section headed by C. W. Perelle of Consolidated Vultee, and the Government Reports Section headed by Gage Irving of Northrop.

Other recent developments indicating the West Coast is approaching a balance in supply and demand for labor included:

The Citizen's Manpower Committee was requested to hold in abeyance its plans for a house-to-house canvass for recruitment of war plant workers throughout Los Angeles County. The request primarily was based on "an improvement in the labor supply of the country registered in the last 60 days" but representatives of the U. S. Army said a canvass may be urgently needed at a later date.

H. P. Harnish, WMC director for Southern California, announced: "The over-all labor market picture here at the moment is an encouraging one, highlighted by the fact that we have eliminated the most important war production bottlenecks. We can now see in prospect at least a temporary balancing of labor supply and demand."

He said there was a present shortage of 40,000 workers, but a monthly flow of 13,000 workers into essential jobs is gradually overtaking the deficit. Of this number, 5,000 are local workers and 8,000 are in-migrants. There are 22,000 job seekers coming into the state every month and 14,000 leaving for other parts of the country..

Brig. Gen. Donald F. Stace, western district supervisor AAF Materiel Command, said the industry was stabilized facility-wise and practically every plant had increasing schedules. Over-all endeavor on the part of the Air Forces to standardize most urgent models had been accomplished, he said.

Aviation Calendar

Dec. 17—Fortieth anniversary dinner honoring Orville Wright, Statler Hotel, Washington, 8 p.m., sponsored by Government and aviation organizations.

Dec. 17—Seventh annual Wright Brothers Lecture by W. S. Farren, Chief of the Royal Aircraft Establishment, England, 5 p.m., U. S. Chamber of Commerce Auditorium, Washington, sponsored by Institute of the Aeronautical Sciences.

Dec. 17—Observance of Kitty Hawk Day, Kill Devil Hill, North Carolina.

Jan. 10-14—Annual meeting, Society of Automotive Engineers, Book-Cadillac Hotel, Detroit.

Jan. 25-27—Twelfth Annual meeting, Institute of the Aeronautical Sciences, Columbia University, New York City.

West Coast Reopened To Civil Air Patrol

For the first time since Pearl Harbor, the West Coast has been reopened to Civil Air Patrol Operations. Land and sea patrol work will constitute the major duties of the new CAP units, working under the Army's Fourth Fighter Command.

Private flying is still forbidden in the 150 mile deep strip of restricted land along the West Coast. The new move is designed to release military personnel for active duty and reduce gasoline consumption through use of low-powered planes.

The Army during the past fortnight began releasing 288 liaison-type aircraft to CAP to be distributed among the 48 Wings. The planes, new Taylorcraft L-2s and Aeroncas, will be used in connection with CAP's Avation Cadet recruiting program.

PCA Challenges State Board's Right to Grant Air Routes

Michigan's Intrastate Grant to Greyhound Opposed by Airline

PENNSYLVANIA - CENTRAL Airlines went strongly on record last fortnight as questioning the right of the Michigan Board of Aeronautics to grant intrastate air routes.

The board, much to the surprise of many industry officials, late last month granted Great Lakes Greyhound Skyways Inc., a subsidiary of Greyhound Corp., bus operators, permission to conduct two types of helicopter service within the state of Michigan.

PCA, through Robert J. Wilson, vice president and counsel, filed a petition seeking to set aside the Greyhound franchise. The petition was filed with the aviation board, Governor Harry Kelly, the Attorney General and the Michigan state highway commissioner.

It pointed out that "despite the fact that it has pioneered air service to Northern Michigan and developed and operated its route at great expense over a period of years, PCA was not even notified of its right to be heard in a proceeding that vitally affected the future of its operation." The company charged that it had never been served with a copy of the Greyhound application, has never had the privilege of seeing or reading one, and that if the action of the Michigan board had not been reported in the public press the airline would have had no knowledge of the action which it considers "so important to the future."

"It is a most unusual procedure to grant rights to render important public service without notice to parties adversely affected and giving them a chance to be heard," Wilson asserted. He declared that the grant of an aviation certificate to the Greyhound organization would give that company a transportation monopoly.

In addition to claiming that the board lacked authority or jurisdiction to award certificates of convenience and necessity, the PCA appeal questioned "the granting of a certificate to a bus company which has no knowledge or experience in aviation to transport passengers by air when no equipment is presently available and when the development of the helicopter is still in the experimental stage."

The Greyhound subsidiary was authorized by the board to (1) conduct air taxi service as a common carrier, or operating under contract or charter, to and from downtown Detroit terminals and all airports now or hereafter located in the counties of Wayne, Oakland, Macomb and Washtenaw, and (2) conduct airline service as a common carrier or under contract or charter, on regular or irregular schedules, between downtown Detroit terminals and Pontiac, Clarkston, Flint, Saginaw, Bay City and intermediate points in Michigan.

Greyhound officials were said to have told the board that they expect to be able to secure two or more helicopters within a year, and that fares would be equal to those of the airlines. The Greyhound petition had stated that the proposed service would not compete with existing airlines but would supplement their service.

Meanwhile, Associated Truck Lines Inc. has also applied to the Michigan board for permission to conduct air cargo service within the state, using airplanes and helicopters. Routes from Detroit to Muskegon and Benton Harbor are sought.

Applications for intrastate routes were popping up all over the country last fortnight—in Virginia, Alabama, Colorado, Michigan and elsewhere—with such rapidity that officials were having difficulty keeping track of them. Government observers still stood by their previous statements—there is nothing in federal law to prohibit a company from operating an intrastate air route. However, if the carrier is caught transporting interstate passengers or property it is in violation of the Civil Aeronautics Act for operating without a CAB certificate.

Seawater De-Salter

A new chemical, which is carried in the form of briquets the size of a small candy-bar, has been recommended by the Naval Medical Research Institute to take the deadly salt out of seawater. The de-salting process takes only 20 minutes and a flier can carry the makings of a 14-day supply of drinking water in his rubber life-raft. As a result of independent tests, American Airlines has adopted the process for all over-water cargo and passenger flights. Above photo shows kit, which weighs 3½ pounds.

So Are We!

Overheard in the cocktail lounge of the Carlton Hotel in Washington:

Three aviation executives discussing aviation legislation.

1st Man: "I'm tired of politicians who know nothing about aviation."

2nd Man: "I'm tired of politicians. Period."

3rd Man: "I'm tired."

Josh Lee Nominated For Reappointment to CAB; 6-Year Term

President Roosevelt, during the past fortnight, nominated Josh Lee, of Oklahoma, for reappointment to the Civil Aeronautics Board for a six-year term ending Dec. 31, 1949.

Lee's present term expires at midnight Dec. 31. He was appointed Feb. 1, 1943 to fill a vacancy caused by the resignation of Vice Chairman Dr. George Baker who accepted a position in a civilian capacity in the War department. Lee was sworn in on Feb. 8, 1943.

Prior to accepting appointment to CAB, Lee had served a six-year term in the U. S. Senate from Oklahoma. He won election to the Senate after serving two terms in the U. S. House of Representatives. Before entering politics, he was head of the speech department of the University of Oklahoma.

Since leaving CAB, Dr. Baker has accepted a commission as colonel in the U. S. Army.

7 Transport Planes Returned to Airlines

The Army Air Forces announced Dec. 4 that seven additional DC-3s have been returned to the domestic airlines.

Of the seven, American Airlines, Eastern and United each received two and TWA one. These bring to 20 the number of planes that have been returned by the AAF for civilian transportation since June 11, 1943.

The planes are former airliners which either had been leased or sold to the Army for use by the Air Forces in carrying cargo and in training operations.

"Their release at this time will make available additional space, greatly needed for priority transportation," the AAF said. "It is anticipated that a limited number of additional planes will be released in the near future."

Spain Gets Control of Airline

The Spanish Air Ministry has purchased the 49% of stock formerly held in Iberian Airlines by the German government, giving the Spanish government full control of Iberian. The ministry previously had held 51% of the stock. The airline recently was able to resume operation between Barcelona, Madrid, and Lisbon with gasoline being made available from Aruba, Netherlands West Indies.

NATA Meeting

(Continued from page 15)

construction of many landing facilities of moderate construction cost such as small airports and landing strips in cooperation with state agencies.

Of special interest was a resolution pertaining to feeder airlines and mechanics' ratings, since many NATA operators have ambitions to enter the feeder airline business. This resolution states:

1. NATA favors asking the Civil Aeronautics Board to act now on all preliminary steps necessary to grant certificates of convenience and necessity on airline extensions and new routes, particularly "feeder" lines, covering the U. S. in order (a) to provide jobs for Air Corps veterans when demobilized and (b) to provide for the delivery by air of all first class mail as a means of speeding business for postwar developments.
2. Favors advocating the reviving of the Civilian Pilot Training Program for high school classes.

Favors CPTP in High Schools

3. Asks that CAB act now on revising Civil Air Regulation No. 24, in order that (a) returning veterans who have had mechanic and technical training in the Air Corps will be able to take examinations under the new system and (b) also to establish new A. & E. certification system for CAA approved schools before the Veterans Administration launches into large-scale training program of demobilized veterans.
4. Demand that the War Department and the WPB, as soon as victory appears safe (a) to permit aircraft factories to begin building "feeder" type planes and (b) short haul airline operators in mail freight and passenger business begin operating on many test routes, (c) to permit aircraft factories to begin building commercial type airplanes to speed and develop all business of our nation.
5. That feeder airline covering cargo, passenger, mail and pick-up airmail service, is a field of enterprise in which the "know-how" of experienced fixed base flight operators is necessary to success: that the public interest requires the development of such enterprise be fostered with experienced fixed base flight operators as operating such service; that therefore this association declare its position as opposed to entry into any division of the air transportation business by inexperienced operators or by surface transportation companies or corporations.

Rep. Randolph Speaks

At the annual banquet Representative Jennings Randolph of West Virginia urged that the building of highways and airports go together in order that the time from airports to center of cities can be greatly lessened. He said no airport plan should be devised that did not carry with it an arterial highway construction program into the center of communities. He also predicted that one million men and women will be flying airplanes in the U. S. two years after the war. He deplored the entrance of "johnny-come-latelys" into the aviation arena, especially in Washington. and said aviation matters should be handled at the capital by men experienced in the business.

Formation of state chapters of NATA will be pushed whenever possible, it was agreed, so that operators within states can effectively tackle problems of those respective areas.

It was decided that annual dues of NATA members who are War Training Service operators will remain at $100, while dues for other members were set at $50. It is expected that many fixed base operators who have not had WTS contracts will join up with NATA now that the purposes of the association have been changed more to operators' problems and less to training.

Executive Committee:

Col. Turner appointed the following on his executive committee: Leslie H. Bowman, Fort Worth, Texas; William Ong, Kansas City, Mo.; Leslie Marsden, Buffalo, N. Y.; Wiley Post, Allentown, Pa.; Henry von Berg, Carson City, Nev.; H. B. Harms, Los Angeles; Howard Barlow, College Station, Texas; and Ray Snyder, Chicago, Ill.

Active in arranging the convention were C. R. Mooney, former executive director and now with Parks Air College, and Mrs. Mooney, and Mrs. Phil Love.

Personal Aviation Dependent On Utility of Private Planes, Geuting Tells NATA Meeting

A belief that the success of postwar personal aviation will depend upon the utility of private aircraft and not on trick selling or high-pressure salesmanship was expressed by Joseph T. Geuting, Jr., chairman of the Personal Aircraft Committee of the Aeronautical Chamber of Commerce, at the National Aviation Training Association meeting in St. Louis.

Asserting that aviation cannot fulfill its vast potentialities merely through the support of enthusiasts alone, he urged the personal participation of people in all classes and groups in selling aviation to the public.

He emphasized the fact that aviation will have to meet the competition of other industries and that it would be dangerous to take for granted the public's eagerness to try its wings.

"The glamor of the air may create customer interest," he declared "but utility must make the sale—and the repeat order. In addition, if the public is to take a major part in the saga of flight, it must be taught the importance of its own role in the increasing efficiency of aviation.

"In achieving this air-mindedness, basic sales knowledge is going to be much more important than an instructor's rating. Good public relations and sound financing are basic considerations. The private flyer after the war must realize that he, too, has a vital stake in the type of regulations that affect flying and licensing.

"As much as it is the responsibility of the manufacturer to achieve flying safety with a minimum of instrument and technical complication, it is the responsibility of the man who will fly to help prevent excessive regulations and ordinances," he declared.

NATA Honors Rick

Capt. Eddie V. Rickenbacker, president of Eastern Air Lines, was awarded the annual National Aviation Training Association award at the St. Louis convention for having contributed most to aviation during the past year.

Editor Tichenor Would Create Cabinet Post: Sec. of Air Commerce

Creation of a cabinet position in the government to be called Secretary of Air Commerce, was urged by Frank Tichenor, publisher of *Aero Digest*, at the NATA annual convention in St. Louis. He urged that the post be established with a complete staff, power, jurisdiction and appropriate funds and headed by a "forceful man who can develop an organization and get things done."

Tichenor also urged that a statutory code with clearly defined provisions and providing federal control of the navigable air replace the present "bureaucratic discretion." He said the government should prepare now for the postwar air expansion which may begin before the war is actually ended, and said the general public and even a large part of the government personnel "seems to be unaware of the development of a new force likely to change our methods of living." He warned that unless this force "is properly and patriotically controlled and directed, it will ruin us."

Snyder Reelected Head of Aviation Distributors and Manufacturers Ass'n

Ray Snyder of Chicago was reelected president of the Aviation Distributors and Manufacturers' Association at its annual meeting last fortnight in St. Louis. W. F. Scott, Jr., of Robertson, Mo., was reelected vice president, and George A. Fernley, Philadelphia, was renamed secretary-treasurer.

Four directors were reelected—G. B. Vandusen, Minneapolis; L. G. Mason, Hapeville, Ga.; R. V. Trader, Pittsburgh; and A. W. Whitaker, Portland, Ore. The following new directors were named: R. B. Kenty, Dallas; T. G. Tynan, Philadelphia; George Wilson, Chicago; W. Logan Case, Akron; H. P. Ladds, Cleveland; and Richard Bomberger, Lititz, Pa.

M. E. Galante of Philadelphia was reelected assistant secretary, and C. B. Bunch of New York City was elected a vice president.

Criticizes Lea Bill

The Lea bill "confuses and intermingles" personal flying with transport flying, Roy A. Watkins, executive vice president of the Howard Aircraft Corp., charged in an address in St. Louis last fortnight. Aviation should be divided into several fields and not "dumped into one basket," Watkins declared.

Freedom for the Private Flyer Urged

Simplified Traffic Rules Needed, Parrish Asserts

CIVIL aviation will have a steady growth providing "we have proper federal encouragement and promotion instead of red tape and senseless regulations that are really of no concern to the federal government," Wayne W. Parrish, editor and published of *American Aviation* and *American Aviation Daily,* told the National Aviation Training Association in St. Louis on Dec. 2.

The approach on regulations, Parrish asserted, "has been wrong. The federal government cannot assume responsibility for minutely and intimately regulating each individual flyer for his own benefit. What is needed is a set of traffic regulations intended to protect innocent flyers from those whose judgment may not be too good.

"In other words what we want are traffic rules, and not a set of complex regulations."

There should be uniform traffic laws throughout the U. S. for private flying, Parrish said, but added that "when it comes to enforcement, I am strongly in favor of state and local enforcement as against an all-encroaching and ever-expanding federal agency. What we need are uniform federal regulations and local enforcement."

Turning to the postwar period, he said that the "outlook is bright in some directions, not very bright in others. One of the greatest dangers ahead is that aviation will oversell itself to the public on things it can't deliver. For the long-range outlook, civil aviation is by all odds the most promising for the manufacturer and the local operator."

On airplane design, Parrish said that too often in the past plane designers have brought out a plane they thought the public wanted instead of building a plane to meet the public requirements.

"From what I have gathered around the country, we're going to have some honest-to-goodness utility planes after the war, planes with tricycle gears, spinproof and stallproof. The airplane that breaks into the mass market for the first time is not going to be a fast streamlined job that a returning P-38 pilot will love to fly on week-ends, but will be an old model T that's rugged and will go in and out of any pasture and lands at 30 miles an hour and cruises at from 100 to 150 miles an hour and just plods along and nothing much can ever happen to it. . . .

"The early automobiles were made for sportsmen and for recreation. Automobiling was an adventure and a lark. It wasn't until the crude and ungainly Model T came along to provide some actual utility over muddy and rough roads, that the mass automobile market began to be touched . . . The mass airplane won't set any records at air races, and it may look like hell, but if it does an old Model T job, it'll bring the sales."

—— *Complete Text of Speech* ——

(In response to many requests for copies of Wayne W. Parrish's speech before the National Aviation Training Association at St. Louis on Dec. 2, the complete text of the speech is reprinted on this and the following two pages. The four-page insert can be easily removed from the magazine.)

Freedom for the Private Flyer

THE National Aviation Training Association is to be commended most heartily for banding together into a closely-knit organization to fight for the common rights of the fixed base operators and training schools. The fact that the Association was organized primarily as a wartime expediency should not in any way prevent its continuing in the postwar as a useful and effective working body to promote the interests of all fixed base operators.

The fixed base operator is the keystone of civil aviation. If each one will remember the old adage that in unity there is strength, the Association should have a great future.

We are about to observe the 40th anniversary of flight on December 17 and it is perhaps fitting that your annual meeting should be held so close to that anniversary, for in more ways than one the 40th anniversary of flight marks the opening of the air age we have all dreamed about so long.

That is to say, the air age we've dreamed about for so long is about to open—providing aviation attains the measure of freedom necessary for its expansion. It seems that some years ago someone in Washington decided that the Federal government should assume a close and intimate responsibility for the welfare and even the existence of the individual flyer, and in so doing the government has wrapped the individual up in such a solid casing of regulations that he is a mere creature existing through the sufferance of a Federal bureaucracy and by the permission and sanction of Parts 20 and 60 of what is so innocuously called the Civil Air Regulations.

But don't get me wrong about the regulations. I think they are a wonderful piece of work, especially the decimal code system; and since these Federal regulations have had such a wonderful and full-bosomed reception by all private flyers I think it behooves aviation to promote the extension of Federal responsibility for the safety of the individual into other fields of locomotion. In other words, we must bring all forms of transportation up to the high regulatory level of private flying, else somebody is going to get hurt. If it were not for the Civil Air Regulations we would be having collisions and crashes and all sorts of accidents which, thank heaven, we don't have today in civil aviation because the regulations prohibit such things.

Now take the automobile. It is high time the Federal government put a stop to all the reckless driving going on all over the country. It's all because we don't have adequate and proper regulations. It's disgusting to think that just about anyone can get a driver's license to drive an automobile. When one stops to think of all the people who have hay fever, or have to wear glasses, or have indigestion from over-eating, it makes one want to give up driving an automobile altogether because it isn't safe.

What is badly needed is a Federal automobile driver's license because obviously a state or a local license is just no good. The states are very lax in determining who should and who should not drive an automobile. I would estimate that about forty million people are driving automobiles today who have no business doing so. Every automobile driver should have a medical examination at least once a year. And just as in Part 20.101 of the Civil Air Regulations, we should demand that the driver of an automobile be of good moral character. It seems quite clear that the responsibility for determining the moral character of a licensee is purely a Federal prerogative. Personally I don't want to be driving down the same street with automobile or tractor drivers of low moral character. It gives me a headache just to think about it.

Another thing is education. If it is important that an airplane pilot be able to read, speak and understand the English language, think how much more important this is for the automobile driver.

Perhaps the worst crime of all is that people are permitted to drive automobiles who know nothing of the history of the automobile, or how to build automobiles, or even the slightest thing about the principles of the gasoline combustion engine. There should certainly be a requirement to pass a written examination on the history of the automobile before anyone can get a license.

Also, we should advocate various classes of driver's licenses. For example, just the other day I saw a man who had never driven anything but a Ford coupe step into a Plymouth sedan and drive away without being checked out. This is rank carelessness. The man might have run out of gas somewhere.

The automobile isn't the only thing needing Federal regulation. There has been gross laxity in our marine laws. How in the world the motor boat people have ever gotten along with only one small set of traffic regulations is more than I can figure out. To think that those red and green lights are ample protection is ridiculous. Marine laws leave everything up to the individual's own common sense and judgment which, as everyone knows these days, is virtually the law of the jungle and is not to be compared with the heights of federalized civilization which we have finally reached after centuries of struggle.

Especially with regard to traffic regulations I think the NATA should go on record as condemning the present practice of permitting two-way traffic on highways. It can be proved most easily that this is dangerous and unsafe. I have actually seen two cars pass each other only two or three feet apart and each car going at sixty or more miles an hour. Where has our Federal government been to be so slovenly lax about highway traffic? Why even city traffic regulations are written in the most general terms. Even for a highly skilled maneuver like driving around a corner, that is, a full 45-degree turn, there is no regulation covering the speed, the angle of turn, the distance from other automobiles, the distance from the curb, and other necessary factors. The automobile is running away with safety and everything else. People just drive as they damn please. It's a wonder somebody doesn't get hit—as they sometimes do.

On the whole, I would say that aviation has been singularly blessed to have had a group of solicitous and charitable folk in Washington prepare for it such a complete set of regulations. We must pass these same regulations on to other forms of locomotion. Just think of the progress we have made under this bountiful watchfulness of the Federal government. We had 25,000 licensed civil aircraft before the war, and I'll go so far right now as to predict that civil aviation can grow and grow until we may have even 30,000 licensed airplanes in another ten years. What if there are 30,000,000 automobiles in the country—to hell with 'em. It means nothing.

I might inject a statement right at this point that any similarity between my flying out to this meeting in a CAA airplane yesterday and this speech I'm giving now is purely coincidental, and is not to be construed as an endorsement because the CAA is not permitted to give endorsements.

There are those today who believe aviation will save the nation from economic collapse after the war, and I am inclined to believe this is true. I'm sure it will be true if Charlie Stanton's prediction of 500,000 civil airplanes for 1950 comes true, and I'll tell you why. It was only a few years before the war, in the latter days of the old Bureau of Air Commerce and the early days of the CAA, that there was one civil airplane for approximately every four employes on the Bureau or CAA payroll. So you can see that if we have a half million airplanes, and if we maintain the same ratio of Federal stewardship to each airplane, private flying can account for a CAA payroll of about 125,000 persons. Now friends, that is real employment. And I hope there is no one here today who believes for a minute that it would take less than 125,000 Federal employes to place the proper attentive guardianship over the civil pilot if we retain the same type of intimate control and relationship that we exercise today.

Of course I want to be wholly constructive here today, so I suggest that NATA go on record as favoring a 5 to 1 ratio of airplanes over employes.

Before passing on to other subjects I think there should be an organization formed of all those who are not making their living in the aviation business but who, as plain ordinary private flyers, have maintained their pilot licenses consistently, for a period of 10 years. Even in wartime with all the ration trouble, there is some hotel somewhere which could provide accommodations for the 10 or 12 guys eligible to join up.

Of course each private flyer after the war must have a mission in life in order to fly. There are some selfish individuals who think the airplane was invented for pleasure and such nonsense must be eradicated. It would be far more painless to discourage these individuals at the start instead of merely letting them become disillusioned by stages through Federal regulations.

But there is a way to lick the red tape if you start your educational program in the grade schools. Start putting the children through the paces of groundwork at an early age so that by the time they reach high school they can fill out all the forms blindfolded. Some people think these regulations are an unfair regimentation, but this isn't true at all. They forget that people weren't meant to fly around in the air anyway. It's a real privilege to be able to soar through the skies, and we shouldn't take such a privilege casually. One would think the air belonged to the public to hear some people talk. Actually, it's quite a complicated affair. As I understand it, the airplane flies in a three-dimensional world, and just the mere thought of a three-dimensional world should prove that it's too complex for the average person to undertake without proper guidance, and the only guidance that's worth a damn these days is Federal guidance, and that's why we have Federal regulations.

Perhaps the big question facing civil aviation today is whether the operators are to continue to starve because regulations and inspection red tape discourages the public, or whether the operators will starve by losing money through the Federal-subsidized WTS training program. Either way, the inspection boys have the local operators over a barrel.

But perhaps I should get serious for a few moments. While the resumption of private flying must naturally await the end of the war, there is no reason why everyone in aviation cannot look ahead to postwar problems. The outlook is very bright in some directions, not very bright in others. One of the greatest dangers ahead is that aviation will oversell itself to the public on things it can't deliver. For the long-range outlook, civil aviation is by all odds the most promising for the manufacturer and the local operator. Military contracts, which amount to the almost incredible total of some twenty billions this year alone, will soon be tumbling down. It is safe to say that military aviation will go far down from its present levels when all war needs are satisfied. Only five per cent or so of our present manufacturing facilities will be needed. Even the outlook for transport aircraft sales is not too rosy. In terms of units per year, the figure will be far under our present transport output.

What remains is civil aviation, the limit of which is unpredictable. It may not come as fast as some of us would like, but the growth should be steady through the years providing we have proper Federal encouragement and promotion instead of red tape and senseless regulations that are really of no concern to the Federal government.

As I indicated earlier, the approach on regulations has been wrong. The Federal government cannot assume responsibility for minutely and intimately regulating each individual flyer for his own benefit. What is needed is a set of traffic regulations intended to protect innocent flyers from those whose judgment may not be too good. In other words, what we want are traffic rules, and not a set of complex regulations. As a matter of fact, the present regulations are cluttered up with a lot of nonsense. For example Part 60.151 is entitled Public Aircraft and it says: "A public aircraft is an aircraft used exclusively in the government service." Now that's a hot news flash if I ever saw one. What it actually is, is a definition, and the regulations are cluttered up with a lot of definitions that belong elsewhere.

At the present time there are two separate groups in Washington hard at work to simplify the regulations. They are good people, and whatever I say in the way of criticism is not intended as a personal reflection on the able men who are doing their best under trying circumstances to get the regulations out of the legal terminology in which they are currently swamped. The present efforts in Washington are sincere, to say the least. But I'm afraid these efforts are using a pen knife when an axe is needed.

People are going to get killed flying, but Federal regulations that are rigid and too exacting are not going to prevent that. Education is vitally necessary. Man is simply going to have to get used to flying the hard way and, in the final analysis, that's the only way we're going to have the mass use of the airplane.

Traffic rules will present a tough problem because there must be a sharp distinction between commercial carriers, such as airlines, and the individual private flyer. Public carriers have always been, and always will be, surrounded by Federal, state and local regulations, as they should be. Public carriers must be protected. It will be civil aviation's job to help work out traffic rules that provide freedom for the private flyer and protection for the public carriers, and both parties will have to stick to those rules.

For private flying there should not be any interfering state laws, that is, a private flyer should be able to fly anywhere between our two coasts by uniform traffic laws. But when it comes to enforcement, I am strongly in favor of state and local enforcement as against an all-encroaching and ever-expanding Federal agency. What we need are uniform Federal regulations and local enforcement. When there is too much Federal enforcement there is too much exercise of autocratic power. If a certain Federal inspector doesn't like the color of a guy's hair, then the poor victim is on the outs from coast to coast.

It is safe to say that red tape and regulations must be eased up very materially or private flying will be restricted and limited in the future. The public simply won't put up with all the bother. Thousands of plane owners and pilots in the past have been discouraged and quit flying because of the red tape.

But another determining factor is the airplane itself. Too often in the past the airplane designers have brought out a plane they thought the public wanted, instead of building a plane to meet public requirements. From what I have gathered around the country, we're going to have some honest-to-goodness utility planes after the war, planes with tricycle gears, spinproof and stallproof. The airplane that breaks into the mass market for the first time is not going to be a fast streamlined job that a returning P-38 pilot will love to fly on weekends, but will be an old Model T that's rugged, and will go in and out of any pasture, and will land at 30 miles an hour, and will cruise at from 100 to 150 miles an hour, and will just plod along and nothing much can ever happen to it. There is a parallel between the automobile and the airplane which we should keep in mind.

The early automobiles were made for sportsmen and for recreation. Automobiling was an adventure and a lark. It wasn't until the crude and ungainly Model T came along to provide some actual utility over muddy and rough roads, that the mass automobile market began to be touched. Civil aviation is at a crossroads right now. Up one fork lies the recreational market which can be compared to the motor boat and yachting field—a very fine market but definitely limited. Up the other fork is the utility market where the airplane supplements the automobile as a vehicle of personal or business transportation. I am sure this mass market will be cracked sooner or later. It is this market that will be cracked by low, slow, and safe flying. The mass market airplane won't set any records at air races, and it may look like hell, but if it does an old Model T job, it'll bring the sales. Don't worry too much about the weather. The automobile had to stay in the barn in the early days when the weather was bad, but that didn't hinder its over-all utility.

One more thing in conclusion and this is a little off the direct subject of private flying, but it is a suggestion NATA may want to adopt. At the close of this war, I hope the United Nations will strip Axis aviation to the bone. The Germans and the Italians and the Japanese should be prohibited from building or flying airplanes of all types and description. They should not be permitted to operate airlines, either nationally or internationally. Axis aviation should be shut down tight until the United Nations are convinced that their civil aviation will not be misdirected as it has been in the past decade. The Axis has given all aviation a black eye by perverting its uses to military purposes even though civil aviation the world over has been advanced technically by a quarter of a century at least through military development.

The sooner we can get the airplane back to commercial and civil purposes of utility and pleasure, the better for everyone concerned. Let aviation develop with the greatest freedom among those peoples of the world who can use it properly. As we approach the 40th anniversary of flight we stand on the threshold of a great air age. We should all be happy at the prospect of participating in its unfolding. It's the greatest thing that ever happened to mankind if we promote and use it correctly.

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Helicopter to Be Limited to Professional Use—Loening

Ten Years Required to Put Craft in Hands of Public, Says WPB Aviation Expert

EXTENSIVE commercial use of the helicopter relatively early in the postwar period is predicted by Grover Loening, aircraft consultant to the War Production Board, chairman of the helicopter committee of the National Advisory Committee for Aeronautics and one of aviation's best known spokesmen. But it will be many years before the helicopter will be ready for general public use, he believes.

America definitely is far ahead of any other country in development of the helicopter, he said, picturing a "great future" for it although for several years it will be limited to usage by professional aviators and professional aviation companies.

Speaking Dec. 3 before the Brooklyn Institute of Arts and Sciences, Loening warned that "All this talk that the helicopter is to be flown by everyone from grandma to the tired businessman right after the war . . . is being so hurtfully overdone that we must call a halt to it."

Loening revealed the little known fact that between 70 and 80 designs are now being worked on and of these, he said, a dozen presently will be successful. Among those currently flying will be listed craft designed by Piasecki, LePage and Young. He pointed out that the War Production Board is actively encouraging helicopter development by granting materials to and designating as laboratories, several young engineers and their organizations who have good new ideas in the field.

Professional Future 'Wide'

After listing many limitations which he predicted will keep the helicopter out of use by the general public for five to 10 years, Loening asserted, however, that "when handled by professionals, its professional future immediately after the war is the one that will be wide and extensive."

"This means," he said, "that helicopters will be flown by airline companies, hired pilots in the employ of individuals in some cases, and of companies in others. There will be fleets of helicopters used on delivery systems for merchandising companies, operated by professional aviators: there will be fleets of helicopters used in short-range feeder airlines, also operated professionally. Mining companies and oil companies will hire trained pilots and purchase helicopters that will be used to carry personnel and goods to inaccessible places, and to use in explorations.

"The U. S. Coast Guard is almost certain to end up in all its lifesaving, ice patrol, law enforcement and coastwise work, by having over 90% of its air fleet in the form of helicopters. At the crowded beaches of summer resorts, the catamaran . . . will be rapidly replaced by a lifesaving helicopter."

Outstanding war use of the helicopter would be in ambulance work, he said, and had the submarine menace continued as seriously as a year ago helicopter development would have assumed great importance. He listed many other possible military uses.

In a non-technical discussion of the helicopter's limitations, Loening said:

"The helicopter at present, and for many years to come, is hard to fly—requires the coordination of five controls—and for that reason is far less suitable for the use of the ordinary layman than is the airplane.

"Any notion, therefore, that everybody is going to fly helicopters right after the war is nonsense, because the amount of skill necessary to fly these machines correctly and with safety is even greater than is now required of an airplane, and is, of course, very much greater than is needed to drive a car.

"This serious limitation is not insurmountable by any means. In due course of time, the three airplane controls used for balancing can be placed on an automatic pilot mechanism, and in due course of time, engineers and designers will develop a governor that will assure the proper rotor speed without any manual action on the part of the pilot. So that eventually after many years of development, which I should estimate at between five to ten years, the controls of the helicopter will finally become sufficiently simplified to make these craft available for more general public use.

Cites Speed Limitation

"Another serious limitation is the fact that helicopters are fundamentally limited in the high speed that they can attain as at present designed. Referring to the advancing blade, since its speed is always the sum of its speed of rotation, plus the speed of advancing of the whole machine through the air, it more quickly reaches the limiting air flow breakdown speed of sound than would an airplane. This speed of sound is around 1100 feet a second and trouble in shockwaves has been run into by airplanes at around 800 feet a second.

"Since in large sizes it is rather impractical to develop the rotors to give the necessary lift without having a tip speed of hovering rotation alone of much under 400 feet a second, this leaves about 400 feet a second for forward velocity which would be equivalent to about 270 miles an hour. This is definitely in the high bracket and it is not likely for many years that helicopters would be developed that would fly much over 200 miles an hour. By the time that many years come around, there will be many airplanes flying around 400 miles an hour.

"Another very serious limitation of the helicopter is a definitely poor performance at increasingly high altitudes. As at present envisioned, it is not an efficient machine in rarefied air if it is efficient at sea level air.

"There are also limitations on size that are quite serious, but this might be met by the development of multirotor machines.

Foresees Important Improvements

"Many of these limitations are due to preserving the requirement that a helicopter must at any time with engine dead be able to become an autogiro and autorotate to a safe landing. Present helicopters can do this. However, as the art develops, it is not certain that this requirement need be continued. We may find that it is a deterrent to development that is not warranted. Possibly the development of twin-engined power plants or of parachutes or some other emergency device might allow of a heavier disc loading that would be far more efficient than the light disc loading that autorotation requirements still demand."

Loening discounted the possibility of a "roadable" type of helicopter. "The versatility of the helicopter's being able to land anywhere makes the roadable idea less necessary, and the fact that it cannot for years as yet be sufficiently simple to allow operation by the average person would not make its use as a car very attractive." He said the result probably would be both a poor helicopter and a poor car.

"One of the first sound steps to take to advance toward making the helicopter a vehicle that might compete with the automobile in the more distant future," he concluded, "is to recognize these limitations now and not expect too much of it too quickly. Give the engineers a chance to work out the difficulties—there are plenty of them, but in time they will work out. Meanwhile, we can proudly say that America is notably in the lead in this phase of aircraft development."

He emphasized: "The helicopter's future is far too great to have to face a period of disappointment and disillusionment when it will need faith in that future to the greatest degree to tide it over its development period."

Carelessness

The British Air Ministry is investigating why the models of two British planes—so secret they hadn't even been photographed—were permitted to be shown in plain view for nine days at an Edinburgh exhibit. One model was of the new Barracuda Torpedo Bomber, the other was of a fighter, the Ministry said. Authorities found several interested boys who had sketched the models, and destroyed their copies.

C. D. Howe Called 'Mr Big' Of Canadian Air Transport

By Austin F. Cross

(Member, Press Gallery, House of Commons and author of "The People's Mouths")

Ottawa, Canada—When the Air Industries and Transport Association of Canada held its annual meeting the other day, it called for the establishment of "a free and independent government authority on civil aviation." It might as well have saved its breath. For under the present regime of Premier Mackenzie King there will not be seen any such set-up.

C. D. Howe

Anybody who looks for an independent aeronautics body in this Dominion is reckoning without Hon. Clarence Decatur Howe, Massachusetts Yankee in Mackenzie King's Court. In a word, no aeronautical body is in prospect.

It is hard for outsiders to understand Canada's complicated civil aviation set-up. First of all, control is not where you expect it. Again, no matter where it officially lies, it actually always is with Mr. Howe and nobody else.

It is difficult to figure out what is what unless you start with the premise that civil aviation is theoretically controlled by an unholy trio composed of the Board of Transport Commissioners, the Department of Transport, and Mr. Howe. If you forget the first two-thirds of the trinity, and remember only Mr. Howe, you get high marks in your lesson. In Canada, the testy but brilliant Minister of Munitions and Supply is Mr. Big when it comes to commercial air control. The fact that technically civil flying does not come under his department at all has nothing to do with the case. Mr. Howe runs Trans-Canada anyway, and he can control just about any other non-military air project he likes. That's how good he is; that's how high he stands with Prime Minister King.

'Odd Triangle'

Now to get back to this odd triangle of ours. Least important angle in this tri-cornered affair is the Board of Transport Commissioners. This body is extremely important, but it is a legal body rather than an administrative one. It is like the courts of any democratic country. You do not go to them before you do anything. You are brought before them, or you seek to come before them, after you have done something. A court bases its activities on past deeds, not on prospective ones.

Technically the Board of Transport Commissioners controls all transport, whether it is by train, bus or plane, but matters of policy would not originate with this august body. Count them out, then, or almost out, as a factor in commercial aviation, certainly insofar as future policy is concerned. You don't expect much in the way of promoting civil aviation from the Board of Transport Commissioners except a good sound legal opinion.

'The Silent Minister'

Now then, we come to the Department of Transport. This is a branch of the government, and is not a commission independent of, and separate from the government, like the Transport Commission. Heading the Department of Transport (which for the first 70 years of its existence was known as the Department of Railways and Canals) is Hon. Joseph Michaud, a New Brunswick French Canadian known as The Silent Minister. This is because Monsieur Michaud is smart enough to keep his mouth shut. So far in life, he has gone places by emulating the clam and with a lovely judgship coming up in New Brunswick some of these years, Hon. Joseph Enoil Michaud is not likely to stick his neck out—especially at something he doesn't know much about.

Because of his position, Mr. Michaud inherited Trans-Canada Air Lines. TCA is in a loose sort of way part of Canadian National Railways, which adds a further note of confusion. The fact however is that TCA, being a publicly owned airline, just as the C.N.R. was a publicly owned rail line, had sufficient in common to be affiliated.

Started TCA

Up till after the war started, the Department of Transport had been run by Mr. Howe. It was during his regime that Trans-Canada Air Lines was born. He nurtured it through its earliest, weakest, days. He brought it through its baby steps, then to a point where it carried mail over the western end, but stopped at Winnipeg. He finally got the boys flying their Lockheeds through to Montreal, originally with mail only, till he thought he was ready to spring his transcontinental airline.

Finally he told Canadians he was going to open TCA on April 1, 1939. But he gave a pre-view to Canada's newspapermen, taking them from east to west, day after day till everybody who wanted a transcontinental trip got one. This writer made the first trip the very first day. To one who has made the trip by rail to the Pacific Coast and taken as long as five nights and five days to do it, what Howe did in making Vancouver an overnight stop from Montreal had the Magic Carpet beaten all hollow.

This may all be beside the story, but the fact is that TCA clicked from the start. Mr. Howe, being minister, could take all the bows, and he did.

Now then, when the war moved along, the portfolio of Transport shriveled from something important to a pianola portfolio, or something that operated by itself. Meanwhile, out of nothing had to be created a department of war supplies, of munitions, and so there was hastily put together, what ultimately became today's extremely efficient Department of Munitions and Supply. Mr. King picked out his wonder boy, the millionaire Howe, to run the new job for him.

The average fellow would have stepped out, and said good bye to TCA. Not Mr. Howe. He loved that baby, and wasn't going to give it up. To this day, no matter who answers questions in parliament about it, Howe really is the man who runs it.

Emphasis on the TCA must be stressed on several counts. One was that it was a government owned line competing, or at least being compared with, privately owned lines in the States. Again, it was viewed with some misgiving by many Canadians who up till the time war began, at least, had still not made up their minds whether or not they liked government control of any transportation system. No one must overlook the meteoric rise of the Canadian Pacific in the air, but this is strictly a latter day affair, and has nothing to do with the earlier picture, where except for what are best described as bush lines, TCA dominated the scene.

'Air Czar'

Howe still has control of TCA, and he still has all the say he wants about how far Canadian Pacific Airlines can go, and about who flies what where. Make no mistake about it, Howe is Canada's Air Czar.

You may ask: What kind of man is Howe? Recently, in my book, *The People's Mouths,* I described Howe as follows:

"Howe is a menagerie of emotions. He is a wildcat lashing out. He is by turns porcupine, all bristles, and again, polecat, in that he spurts at those he doesn't like, some pretty strong stuff. In appearance he has a complexion something akin to a moccasin, brows that act like storm clouds betokening trouble to come, and a body whose frailty belies its toughness.

"At times he is all sweetness and light, then he is as unfair as a Turkish sultan. He gives deceptive answers, and is annoyed when they are found out. Nettled at discovery, he wraps a cloak of comfort about himself, warming his exposed ego with the thought that it was not in the best interests to have told the truth, although this was not the case at all. Then the next day he will spill precious secrets that have the censors tearing their hair. He snarls that he does not care whether people believe him or not, then howls when he is misinterpreted. He seethes under some criticism, and laughs next day when abused twice as vindictively. Tyrant and dictator, Poo Bah, go-getter, efficiency plus, an assembly line in pants. How do you add it all up?"

That's the man who is looking after the commercial air over Canada. Never discount his influence. Don't fail to figure him lurking, a powerful figure in the background. What he says goes. He's the law. Suppose the ABC Line applies for a charter to go from Smithville to Jonesville. It is refused. Bets are more than even that Howe has given it the thumbs down. You may wonder why the Board of Transport Commissioners are

(Turn to page 24)

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Rail Unions Oppose Railroad Entrance Into Air Operations

Favor One Strong Airline to Meet Foreign Competition

TWO strong railroad brotherhoods came out last fortnight in opposition to the operation of airlines by steamship lines, railroads, bus or truck companies.

At the same time, they advocated establishment of one strong U. S. international airline in which all transportation interests would be represented, and opposed the entry of domestic airlines into the foreign field.

The surprise statement was issued jointly by Alvanley Johnson, Grand Chief Engineer of the Brotherhood of Locomotive Engineers, and A. F. Whitney, president of the Brotherhood of Railroad Trainmen. The statement was sent to the President, members of the Senate Commerce Committee and members of the House Interstate and Foreign Commerce Committee.

"We have given thought and study to the questions involved as they relate to labor, transportation service, national defense and postwar peace," the union officials said. "The following are our conclusions:

"1. That present international and domestic laws which provide complete control and full air sovereignty for American and foreign international air transport are satisfactory; but the Congress in connection with further development of national policy should give consideration to and explore the legal possibilities of providing that all licenses issued to foreign flag air lines contain adequate provision for the protection of American wage standards.

"2. That American international air lines should not engage in domestic air traffic in the United States and American domestic air lines should not engage in international air traffic. Foreign flag air lines should be licensed by our government to discharge and pick up traffic only at gateway airports in the United States.

"3. That international and domestic air transport should continue under strict Federal regulation.

"4. That steamship lines, railroads, bus and truck corporations and/or their subsidiaries and/or their holding companies, singly or collectively, should not be permitted to operate or control any air line.

"5. That to protect America's position and to compete effectively in the post-war world against the great foreign air line monopolies, the United States should concentrate its national effort in a single strong American flag air line, organized according to a government-approved plan, and in the private ownership of which all American transportation interests may be represented."

The brotherhoods warned that "if the United Nations fail to establish the machinery to secure world peace, then a key issue in the preparation for the inevitable World War III will be that of air policy. Therefore, considerations of international air policy are not alone simple considerations of labor policy as such and of maximum service at minimum cost. International (and also domestic) air transport policy is inextricably enmeshed with the issue of national safety and of war and peace."

They also went on record as opposing any relaxation of "our present control of our air space. For the present we must consider complete sovereignty of the air as a necessary principle of national safety. Until the machinery of postwar peace has been designed and made operative it would be unrealistic, in fact national folly, to barter away any military and commercial protection or advantage which sovereignty now gives the United States."

The idea of a monopoly, the union officials admitted, "is repugnant to the people of America. This is a popular attitude, born of experience. While we support the principle of economically regulated competition in the field of domestic transportation, that policy cannot be practically applied in the domain of international air transport. There is every indication that American international air transport will be compelled to meet foreign monopolistic competition—a situation over which this government has no control. This competition, for obvious reasons must be met in kind. Our international air transport service must be operated as a unit.

"High wage standards are essential in a highly skilled industry like air transportation. Government policy should be devoted to the support of such standards and the protection of the American carrier, maintaining them against cheap labor of foreign powers."

Educators Feted by UAL

At the recent aviation dinner for West Coast educators, sponsored by United Air Lines at Lockheed Air Terminal, Forrest Barrett, left, director of UAL's school and college department, sat next to Dr. Cornelius Siemens, professor of education at the University of California.

Flight Tests Made Of Budd's New All-Steel Cargo Plane for Navy

The first large size airplane of stainless steel construction ever put into production is now undergoing flight tests. The plane, built under Navy contract by Edward G. Budd Manufacturing Co., of Philadelphia, Pennsylvania, is a twin-engined cargo carrier of unusual construction.

Tests, though incomplete, indicate that the intended use of the plane will be realized, the Navy Dept. announced.

Except for plywood doors and interior floors, the airplane is built entirely of stainless steel.

This will be the first airplane the Navy has obtained which was designed entirely with cargo handling, loading, and transportation as its primary mission. Other Navy cargo planes have been adaptations of personnel transports or combat types. Two Pratt and Whitney engines power the plane.

Other details of cargo capacity, range, speed, construction and performance are not revealed at the present time. Under the contract, part of the output of the planes will be for the Army and part for the Navy.

Budd Manufacturing Co. began preliminary engineering work on the new plane on the day after Pearl Harbor, and later received a contract from the Navy. Budd built its original stainless steel plane, a three-place amphibian named the "pioneer," in 1929. This airplane is now mounted before the Franklin Institute in Philadelphia.

C. D. Howe

(Continued from page 22)

unfavorable to something. Chances are Howe has phoned them and said he doesn't like the idea. That settles it; the Board doesn't either!

Nobody can go over his head, can go round him, can sidepass him. Like in a dream, when you run from some creature, only to find him athwart your path again and again, alien air firms discover that blocking their schemes is Mr. Howe. Don't mistake me. Don't think this is all bad. Howe has Canada's best interests at heart. Howe got Trans-Canada going after air travel in Canada had degenerated to nothing under the Bennett regime. It was Howe who put commercial aviation back on its feet. It was he who developed the lucrative air business that rival lines are now licking their chops to get. Howe must not be seen in the role of an ogre. He's our watch dog.

But those who come to Ottawa and seek to use influence to get this or that done, who try interviewing members of parliament, or who try to wheedle themselves into this or that cabinet minister's favor, are all wasting their time. If you don't see Howe you've seen nobody. If you do see Howe, you've seen everybody.

One tough, slightly stooped, tawny-faced man is today controlling the civil aviation over more than one third of the North American continent.

Petroleum Research and War in the Air: A series of stories of original Esso research developments that help give U. S. planes an edge in the air.

ESSO
AVIATION
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or how to help
keep a Helicopter
happy!

TO the public, at least, the special abilities of the helicopter have recently come as quite a surprise. But not so to the people at Sikorsky Aircraft who worked long and brilliantly to make this flying revolution come true.

Engine lubrication in a helicopter presented real problems. Located entirely within the fuselage and back of the pilot, its engine gets none of the cooling frontal wind stream it would get in a conventional aircraft installation. Yet recent performance data indicates that *even under these handicaps* the engine operates much cooler than was normal to the usual type of installation in a conventional airplane.

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Aero Chamber Reorganization Takes Shape

Presidents of Major Companies Nominated For Board; Regional Meetings Planned

THE pattern for reorganization and revitalization of the Aeronautical Chamber of Commerce became better defined last fortnight with indications that early next year the organization would begin to shape up as the strong trade association sought by the industry in preparation for the postwar period.

Nominated for the board of governors for the coming year was a slate composed entirely of presidents of manufacturing companies as plans shaped up for the balancing of all activities, including board meetings, between the eastern and western sections of the country.

Election of the new board and officers was deferred temporarily at the suggestion of the nominating committee when the annual meeting of the Chamber was held on Dec. 3. A special meeting of the membership will be called, possibly in January, for the election. The meeting will be timed with other activities which will make it convenient for the company presidents to attend.

Nominated for the Board of Governors were the following company presidents:

Division A: Donald W. Douglas, Douglas Aircraft Co.; J. H. Kindelberger, North American Aviation, Inc.; Robert E. Gross, Lockheed Aircraft Corp.; Harry Woodhead, Consolidated Vultee Aircraft Corp.; P. G. Johnson, Boeing Aircraft Co.; T. Claude Ryan, Ryan Aeronautical Co.; Guy W. Vaughan, Curtiss-Wright Corp.; Eugene E. Wilson, United Aircraft Corp.; Glenn L. Martin, The Glenn L. Martin Co.; J. Carlton Ward, Jr., Fairchild Engine and Airplane Corp.; Victor Emanuel, The Aviation Corp., and Alfred Marchev, Republic Aviation Corp.

Division B: E. R. Breech, Bendix Aviation Corp.; Thomas A. Morgan, Sperry Corp.

Division C: Clayton J. Brukner, Waco Aircraft Co.

Nominated for officers were: Donald W. Douglas, chairman of the board; J. Carlton Ward, Jr., president; LaMotte T. Cohu, vice president; Lawrence D. Bell, vice president; H. W. Cohu, treasurer, and Irving H. Taylor, secretary.

Facilitating the arrangements for regional meetings the nominations provided for the chairman from one region and the president from another, with a vice president from each region.

Since a full time chief executive is expected to be selected in the near future, it was proposed that when chosen he be given the title of president. Since he must also be a member of the Board, the committee recommended provision for adding another member to the Board. When the executive is appointed, the incumbent in the office of president would resign that office and be elected an additional vice president. Under these plans, the committee recommended also that no Executive Committee be chosen.

Two major proposals discussed at the annual meeting without formal recommendations being made will be submitted to the full membership for a vote:

1. That the name of the Chamber be changed to Aircraft Industries Association "so as to make it clear that the organization is a trade association, representing the aircraft manufacturing industry rather than a chamber of commerce.

2. That the membership be restricted to manufacturing members, thus discontinuing the present Division C.

The Board of Governors has approved a budget of $600,000 for the 1944 fiscal year, which compares with $104,000 for eight months in 1943 under the curtailed program of the Chamber.

In his annual report last fortnight, James P. Murray, president, reviewed the work of the year and especially praised the work of the technical committees. He said that standards on basic materials established as a result of the activities of the National Aircraft Standards Committee have "substantially alleviated the materials supply problem."

Speaking of the Traffic Department's work he said: "One hundred and 50 subjects dealing with such matters as rates, packing, marking, export regulations, legislation, bills of lading, railway express service, air priorities, ODT truck legislations and others were taken up. Two hundred and eleven bulletins were sent out by the department during the year . . . It has been instrumental in producing substantial savings."

The Information Department, created during the year, maintained and added to the statistical files and answered inquiries from members, Government agencies, writers, press, radio and the public.

The Economic Development Department, set up in March, now has three groups of subcommittees working on problems especially important in the postwar era. Pointing out that the special needs of the manufacturers and users of personal airplanes were recognized, Murray announced plans for opening of a new department Jan. 1 to handle personal plane problems under management of John E. P. Morgan.

Murray reviewed the evolution of reorganization proposals which were worked out by a committee headed by Rudolph Deetjen, assistant to the president of The Aviation Corp. At a Board meeting on Sept. 28, 84 votes had been received, of which 77 were in favor of the plan and seven were opposed to it. Since several of the larger members had failed to vote, a committee was appointed to confer with presidents of those companies.

"Two informal meetings were held on Sept. 29 and 30" Murray's report said, "with the presidents of Martin, Curtiss-Wright, Bell, Fairchild, Republic, Aviation Corporation, Bendix, Douglas, Northrop, North American, Ryan and Boeing and vice presidents of Brewster, Consolidated-Vultee and Lockheed. These meetings developed that those present would all approve the plan with certain modifications, principal among which were:

"1. That the Board of Governors should not exceed 21 nor be less than 11.

"2. That a way be found to have the organization function along the general lines that had been found to be successful in the case of the War Production Councils.

"3. That the name be changed so as to make it clear that the organization is a trade association.

"4. That the membership be restricted to manufacturers of aircraft, aircraft engines and accessories, parts and materials used in the construction or operation of aircraft.

"At a recessed meeting of the Board on Oct. 4 a report of these views was received and it was decided to revise the plan accordingly."

Record Crossing of Mail Plane

Seventy-two hours after mail was posted on the West Coast recently it was delivered to American and Canadian soldiers in the British Isles. The mail was flown in an American Liberator from Montreal to a British airport—3,100 miles non-stop—in 11 hours, 35 minutes, a new transatlantic record, the Royal Air Force Transport Command reported. Capt. Richard Allen, an Australian pilot with the British Overseas Airways Corp., was in charge of the plane.

International Air Policy

Well informed sources in Washington say that there will be no formal conferences on international air policy until the United Nations are ready to discuss other postwar problems. Which means there won't be any formal get-together among the various nations until after the war.

But informal discussions among the nations—especially between the U. S. and Britain—will be carried on from time to time. One such informal discussion is believed imminent.

Meantime it is definitely known that there have been informal discussions about creating a United Nations air organization along permanent lines to handle international air problems after the war. It would be an elaboration of the International Air Traffic Association of pre-war Europe and would determine such matters as communcations, safety, air mail and traffic matters. Leaders in such an organization would be the U. S., Britain and Russia.

Freedom of transit for airplanes of all the United Nations, especially including commercial airplanes, is believed to be a cardinal point in U. S. and British discussions.

Award of Collier Trophy to be Made At Wright Dinner

Presentation of the Robert J. Collier Trophy, administered by the National Aeronautic Association, will be one of the features of the special Anniversary Dinner Dec. 17 in Washington, D. C., honoring Orville Wright on the 40th anniversary of the first airplane flight. Recipient of the trophy will not be revealed until its actual presentation.

The Anniversary Dinner is expected to be one of the aviation highlights of the month, and is scheduled for 8 p.m. in Washington's Statler Hotel. A one-half hour broadcast will be made by NBC at 9:30 p.m., EWT.

Wright will be guest of honor, consenting to make one of his few such appearances upon the invitation of President Roosevelt. Announcement of the speaker for the dinner has been withheld, but government departments and aviation associations sponsoring it have promised a headline event. Invitations were limited to 800, and there has been a tremendous demand for places at the banquet.

At 5 p.m. on Dec. 17 the seventh annual Wright Brothers lecture will be delivered in the U. S. Chamber of Commerce auditorium in Washington by W. S. Farren, chief of the Royal Aircraft Establishment, England. This is under sponsorship of the Institute of the Aeronautical Sciences.

Presentation of the Frank G. Brewer Trophy for outstanding contributions to air youth education, offered by a Birmingham, Ala., businessman, also will be made at the Anniversary Dinner, probably by Vice President Wallace.

Oldest Aero Club

The Aero Club of New England claims to be the oldest aeronautical club in the world. At the regular annual meeting of the organization in Boston November 23, William Carroll Hill, retiring secretary, pointed out that the club was formed January 2, 1902 when 11 prominent Boston men, meeting socially at the Massachusetts Automobile Club, signed a paper of agreement to associate as a club "indulging in the sport of ballooning." Prof. A. Lawrence Rotch of Harvard University, founder and director of the Blue Hill Observatory, became the first president of the club upon its incorporation in 1907.

NACA Seeking Personnel At All Research Centers

To meet critical military objectives set for it by the Army and Navy, the National Advisory Committee for Aeronautics is expanding its facilities and personnel at its major research stations and has issued a call for workers and technicians.

John F. Victory, secretary, said NACA will need machinists, toolmakers, instrument makers, pattern makers, electricians, welders, metalsmiths, aircraft modelmakers, airplane and engine mechanics, wind tunnel mechanics, and professional engineers, physicists, chemists, etc. The expansion program will start soon and continue through the winter.

Application can be made to the personnel officers at Langley Field, Va., Moffett Field, Cal., and the NACA engine laboratory at Cleveland Airport, Cleveland, O.

Aviation Huddle in Washington

Aviation was on the minds of the trio pictured above at a recent meeting in the nation's capital. Left to right—Congressman Richard E. Harless (D. Ariz.), member of the House aviation sub-committee; Joseph T. Geuting, Jr., chairman of the Personal Aircraft Committee of the Aeronautical Chamber of Commerce; and W. L. Jack Nelson, assistant director of pilot training for the Civil Aeronautics Administration

Sen. Clark, Chairman of Aviation Subcommittee Doesn't Like the Airplane

The airplane, just before celebrating its fortieth birthday, has been assailed by Sen. Bennett Champ Clark (D., Mo.), chairman of the Senate Commerce Committee's aviation subcommittee, as "probably the greatest disaster that has ever happened to mankind."

Clark made his assertion on the Senate floor in connection with a resolution commemorating December 17 as the fortieth anniversary of the Wright brothers' first successful plane flight at Kitty Hawk, N. C.

First the resolution, as passed by the House was read to the Senate. It stated:

"Whereas on December 17, 1903, the first flight of a heavier-than-air machine was made by Wilbur and Orville Wright at Kill Devil Hills, Kitty Hawk, N. C.; and

"Whereas this achievement of the Wright brothers has been of incalculable value to mankind; and

"Whereas the Congress of the United States heretofore has recognized this epochal event by authorizing the erection of a memorial at the place of the flight; and

"Whereas the fortieth anniversary of the first flight of a heavier-than-air machine will be commemorated on December 17, 1943: Now, therefore, be it

Resolved, That the Nation express its gratitude and respect for this signal and astounding contribution to the progress of the world on the fortieth anniversary thereof,

"That an engrossed copy of this joint resolution be transmitted to Orville Wright, the surviving brother."

Following the clerk's recital, Clark took the floor.

"Mr. President," he began, "I should like to suggest . . . that the whereases in the joint resolution be eliminated.

"Among the whereases there is the recital that 'This achievement of the Wright brothers has been of incalculable value to mankind," he continued. "In my opinion, it is probably the greatest disaster that has ever happened to mankind. I am not willing to give my consent for the consideration of a joint resolution which contains such a whereas.

"I do not think there is any question that the Wright brothers, high as were their motives, probably contributed more to the disasters to mankind than any other two men who ever lived in the history of the world."

Clark ended by announcing that he would block the resolution unless the "whereases" were eliminated. The Senate went along, clipping out the three middle "whereases."

The result of the episode: Orville Wright may not receive an expression of esteem from the Congress on the anniversary of his achievement—unless the House is willing to concur in the clipped version. If he does, it will tell him only: (1) That the first airplane flight was made on December 17, 1903; (2) That the fortieth anniversary of the first flight will be December 17, 1943; (3) "That the Nation expresses its gratitude and respect for this signal and astounding contribution to the progress of the world. . . ."

Back the Attack—With War Bonds

Destruction is his business

This ominously hooded figure is a Boeing test engineer whose business is destruction.

Here he is exposing the exterior of a newly designed Flying Fortress* astro-sighting dome to a stinging 75 degrees *below* zero . . . at the same time heating the interior to a sizzling 133 *above.*

With maximum conditions reached, a 50-caliber machine-gun is fired across the dome's surface to see whether powder burns and explosive gases affect the transparency.

This severe test is only one among hundreds (and a relatively minor one) by which Boeing engineers determine in advance that each new part of a Fortress will function *as planned.* There is not a single major item in this great battleship of the skies which was not "tested to destruction" . . . often many times . . . before being accepted.

Boeing's steadfast refusal to take anything for granted is one of the reasons for the outstanding performance, on every battlefront, of Flying Fortresses and their gallant crews.

It is part and parcel of Boeing's determination to design, to engineer, and to build as soundly and efficiently as is humanly possible.

It is a philosophy that has produced such notable airplanes as the Boeing Stratoliners* and the transoceanic Clippers, as well as the Flying Fortresses.

When peace returns, this same Boeing insistence on unyielding standards will be your assurance that, whatever the product . . . if it's "Built by Boeing" it's bound to be good.

DESIGNERS OF THE FLYING FORTRESS • THE STRATOLINER • PAN AMERICAN CLIPPERS **BOEING**

*THE TERMS "FLYING FORTRESS" AND "STRATOLINER" ARE REGISTERED BOEING TRADE-MARKS

H.M. Horner Named President of United Aircraft Corp.; 2 Other Promotions Announced

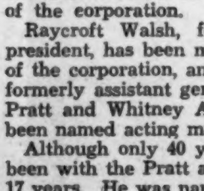
Horner

A realignment of officers was announced last fortnight by the board of directors of United Aircraft Corp. Eugene E. Wilson has turned the office of president over to H. Mansfield Horner, former vice president in charge of manufacturing and general manager of the Pratt and Whitney Aircraft Division. Wilson will devote his entire time to his duties as vice chairman of the corporation.

Raycroft Walsh, formerly senior vice president, has been made a vice chairman of the corporation, and William P. Gwinn, formerly assistant general manager of the Pratt and Whitney Aircraft Division, has been named acting manager.

Although only 40 years old, Horner has been with the Pratt and Whitney Division 17 years. He was named general manager of the division in 1940.

"It is believed this realignment of our principal officers will tend to strengthen the general executive department and also operations," said Frederick B. Rentschler, chairman of the board. "It continues United's fixed policy of advancing personnel within the organization. It will also serve to bring along our younger executives to positions of greater responsibility and at the same time will provide our mature senior personnel with the opportunity of devoting their efforts to the general business affairs of the company, particularly in the correlation of research and development programs of all United Aircraft divisions, to insure timely and effective planning in anticipating future requirements."



Gwinn

Walsh

Lehman Bros. Buy An Interest in Air Express International

Chester M. Mayer, president of Air Express International Agency, Inc. and affiliated companies, announces that Lehman Brothers have purchased an interest in the company, and that Paul E. Manheim, of the banking firm, has been elected to the board of directors.

Organized in 1936, Air Express International Agency is the largest independent organization engaged in servicing international air shipments in conjunction with arlines flying international routes. Among the airlines with which the company has arrangements are Pan American Airways, American Export Airlines, TACA, British West Indian Airways, Aerovias Brasil, and KLM-Royal Dutch Airlines. Offices are maintained in New York, Miami and New Orleans.

Air Express International, Inc., an affiliated company organized this year, acts as general agent in Miami for KLM-Royal Dutch Airlines, operating between Miami and the Dutch West Indies.

Commenting on the purchase by Lehman Brothers, Mayer stated: "It seems desirable that in the post-war period more extensive air express facilities should be made available to American exporters and importers. We believe that the association with Lehman Brothers will greatly contribute to the realzation of this objective. As more international routes are established, it is our intention to open offices in all airports of entry in this country."

Florida's Governor Names 7 Man Committee to Study Postwar Aviation Trends

Governor Spessard Holland of Florida has appointed a seven-man interim citizen committee on aviation to make a study of the most probable trends of postwar aviation in Florida and to submit recommendations to the 1945 Legislature on methods of expanding and regulating the industry.

The committee was authorized by the 1943 Legislature and is composed of three legislators, Sen. Wallace E. Sturges of Ocala and Representatives W. W. Stewart of Fort Myers and Goodwin M. Nilsson of DeLand, all civilian pilots; John Corry of Quincy, V. J. Obenauer of Jacksonville, MacDonald Bryan, director of public information for National Airlines, Jacksonville, and Charles Moon, Miami legal counsel of Eastern Air Lines.

J. E. Yonge of Miami has been asked to serve as consultant for the State Planning Board in developing this state-wide aviation program. Members of the committee and Yonge will serve without pay.

War Department Contracts

The War Department announces (1) award of a contract to Peter Kiewit Sons Co., MacDougald Construction Co., and Western Contracting Corp., Sioux City, Iowa for construction at an Air Forces installation in Dallas County, Tex., to cost in excess of $1,000,000; (2) authorization for construction at an Army Air Forces installation in Highlands County, Fla., to cost $1,000,000.

CAA Gives Cross Country Training Contractors $5 Increase in Hourly Rate

Contractors engaged in cross country training under the War Training Program of the Civil Aeronautics Administration won a $5 increase in the hourly rate per plane in a conference with CAA officials late last month.

The increase is to be effective as of Nov. 15 and will bring up the hourly rate to $24.05. A formula will be worked out covering the losses experienced by the contractors during the last three months. Increase in maintenance costs, including parts and labor, appeared to be the principal factor in contributing to the losses sustained by the contractors.

Edward Garbacz, of the Central Flying Service, Little Rock, Ark., one of the few operators who broke even under his contract, praised R. McLean Stewart, director of the CAA-WTS, for his friendly and cooperative attitude in meeting the unforeseen problems which have arisen since the program was put into force.

AOPA Plans Many Postwar Activitives To Aid Vets

The Aircraft Owners and Pilots Association, which already has given assistance to 80% of its membership mustered out of the services in their search for postwar jobs, is making elaborate plans for expanded activities of this nature, according to L. P. Sharples, chairman of the board, in a recent report to the executive committee of AOPA.

Sharples' report revealed that AOPA, whose members are exclusively licensed flyers, has performed thousands of services for its membership since Pearl Harbor, including a tow-in and repair service for private flyers. The association also operates a Washington license and legal aid service. Postwar projects already underway include airhavens for AOPA week-end flights, sporthavens for vacations, a campaign for more lightplane airports and a used-plane exchange for the benefit of its membership.

AOPA aims to be to the pilot what auto clubs were to motorists in the early days of the automobile. It is a non-profit pilots' organizaton and membership is open to pilots only.

The organization now renders most of the following services to pilots: Pilot Advisory service which includes assistance in gettng information and action from Washington bureaus; tow-in and repair service following crack-ups; legal aid; driv-ur-self automobile service at reduced rates; airport directory and radio guide; check charts for engine and plane and special trip log sheets, legislative aid to those drafting laws and rules; advice on insurance; test and rating equipment, aid in getting airport obstruction removed, special hotel discounts, names and classification of rated airports, employment service, used plane sales, sporthavens—vacation spots with accompaying airports where swimming, fishing, hunting, golf and other recreational facilities may be enjoyed—and personal insignia for lapel, plane, car and pocketbook.

AOPA maintains offices at 1003 K Street, N. W. Washington, D. C.

Another
MARTIN USA
REG. U. S. PAT. OFF.
Martin Fi

Engines start instantly in sub-zero weather

. . . thanks to this new Martin lubrication system

WHEN radio warns of approaching enemies instant starting is required . . . and instant starting in sub-zero weather is now possible on U. S. planes, through Martin's newly-developed cold-weather lubrication system. Vital to victory today, this new device holds great promise as a means of starting automobiles, trucks or tractors on bitter-cold mornings. Here's how it works.

Without the Martin Method

Oil for an airplane engine is kept in a tank, not in the crankcase. A compartment within the tank lets some of the oil warm up faster than the rest so that it gets to the proper running temperature quicker. An oil cooler between the engine and tank keeps the oil from getting too hot. Pilots, landing in cold weather, press a button which introduces gasoline into the oil so that when they start the motors later the cold oil will be thin and permit a quick take-off. However this gasoline often evaporates from the hot engine, the oil is not thinned properly and when the engine is started, the oil cooler is blown up by the thick oil being forced into it. Result—disaster.

With the Martin Method

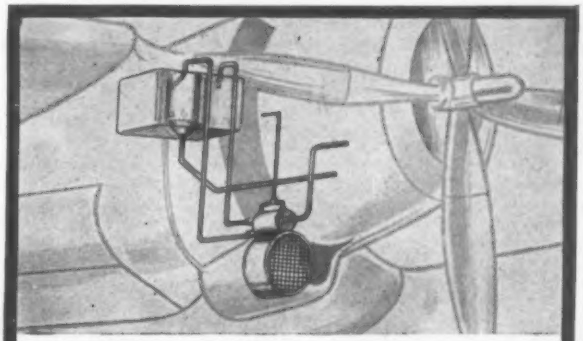
To meet this problem, Martin engineers devised the new lubricating system which:

1. Injects the diluent into the oil after it has passed through the engine. This prevents the hot engine from evaporating the diluent leaving the system filled with thinned oil.
2. The new system utilizes a by-pass to prevent cold, hard oil from blowing up the oil cooler.
3. The Martin system permits dilution with dual return lines to the oil tank, one line leading to the warmup compartment, the other to the main section of the tank.
4. With the Martin system, the diluted oil is returned to the warm-up compartment, thus avoiding dilution of all the oil in the tank.

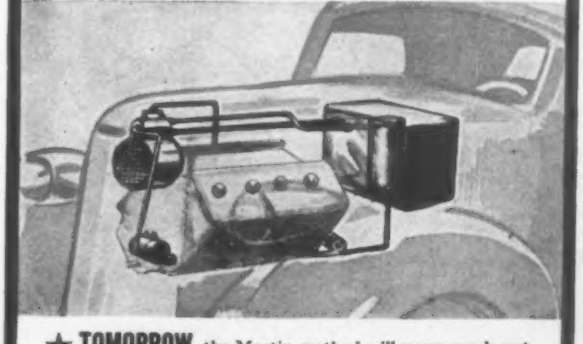
Result—mission accomplished!

Proved in action, on Martin and other planes, the new Martin lubrication system has solved a major problem of global warfare—has brought added safety and efficiency to U. S. aircraft—and has opened new vistas for peacetime industry. In war or in peace, keep your eye on the Martin star.

THE GLENN L. MARTIN COMPANY, BALTIMORE, MD.
THE GLENN L. MARTIN-NEBRASKA COMPANY—OMAHA



★ **TODAY,** the new Martin lubrication system is saving precious material and even more precious lives, in addition to giving our planes still another advantage over enemy types.



★ **TOMORROW,** the Martin method will mean much, not only to commercial airlines, but also to manufacturers and owners of trucks, tractors, buses and private automobiles.

Martin
AIRCRAFT
Builders of Dependable Aircraft Since 1909

Larry Bell Writes Joe—Yes, Joe Stalin!

LARRY BELL HAS FOUND that there is no way like the direct approach!

As others have found to their eminent satisfaction, if you can't succeed any other way—just write a letter to Joe.

Yes, we mean Joe Stalin.

Here's one of the rich, rare stories of the war, a story that Lawrence D. Bell, president of Bell Aircraft Corporation at Buffalo, can pass on to his grandchildren.

As all know by now, the Russians like the P-39 Airacobra like nothing else in the world, except maybe Stalin. They've never been able to get enough of these sturdy low-altitude fighters. All of this has intrigued Larry Bell, who has seen hundreds and thousands of them leave his Buffalo plants; but that's the last he hears about them except for a few scattering reports and requests for more P-39's.

Larry tried to get some of his field men into Russia to see how the planes were holding up, and to see what more could be done for the Russians. No soap. Our Army told him it would be impossible. So did the State Department. So did all Washington officials. It just simply couldn't be done. Russia didn't want any Americans cluttering up its war effort.

Larry couldn't stand it any longer. So believe it or not, he sat down and wrote a letter to Uncle Joe Stalin.

Just what he said in that letter is up to Larry and Joe, but the letter worked miracles. In no time at all Larry had a call from the Soviet Embassy in Washington. Yes, Mr. Stalin thought Larry's idea was magnificent. By all means send over some field representatives. By all means! When will they be ready to shove off?

When Larry caught his breath, he lost no time making plans. He got hold of four of his very best factory and field representatives, assigned the crew chief's job to none other than Leighton Rogers, and the five started off with AAA-1 priorities and some 1,200 pounds of baggage, parts, photographic supplies and gadgets. In no time at all they were in Russia.

That's just part of the story.

The other part is that Leighton Rogers is the former president of the Aeronautical Chamber of Commerce and is now on Bell's own personal staff. Rogers was "bounced" out of the Aeronautical Chamber some years ago in the big industry upset which brought the west coast manufacturers into the eastern family. By and large not much has been heard of Rogers since his hasty exit from the Chamber, but sit on the edge of your chairs and listen to the rest of this story:

It seems that Joe Stalin gave one of those super-dooper big-time state banquets, that last all night, to Donald Nelson a few weeks ago. And who do you suppose was sharing honors with Donald Nelson? None other than Leighton Rogers, the ex-president of the Aeronautical Chamber! One report has it that Rogers sat next to Stalin, but even if he didn't get that far up in the world, he was one of the few Americans toasted, wined and dined. And is he sitting on top the world!

There's only one other small part of the story left to tell. It's surprising how popular Bell has become with certain other aircraft companies who have airplanes flying in Russia. They all want to know the secret of getting their field representatives into Russia.

Well, says Larry, sitting back with feet on his desk and thumbs in his vest, it's all in knowing how. Just write a letter to Uncle Joe, that's all.

'Vehicle of Diplomats'

Douglas Aircraft Co. has dubbed its Skymaster transport (C-54) "the military vehicle of international diplomats," following Secretary Hull's round trip between Washington and Moscow "without incident." Other celebrities who have used the C-54 are President Roosevelt, Secretary Knox, Winston Churchill (and family), Ex-Ambassador to Russia Davies, Wendell L. Wilkie, Madame Chiang Kai Shek, Queen Wilhelmina, Gen Giraud, Princess Juliana (and children), and T. V. Soong, Chinese Minister of Finance.

CAA Control Proposed Over 'Surplus' Fields

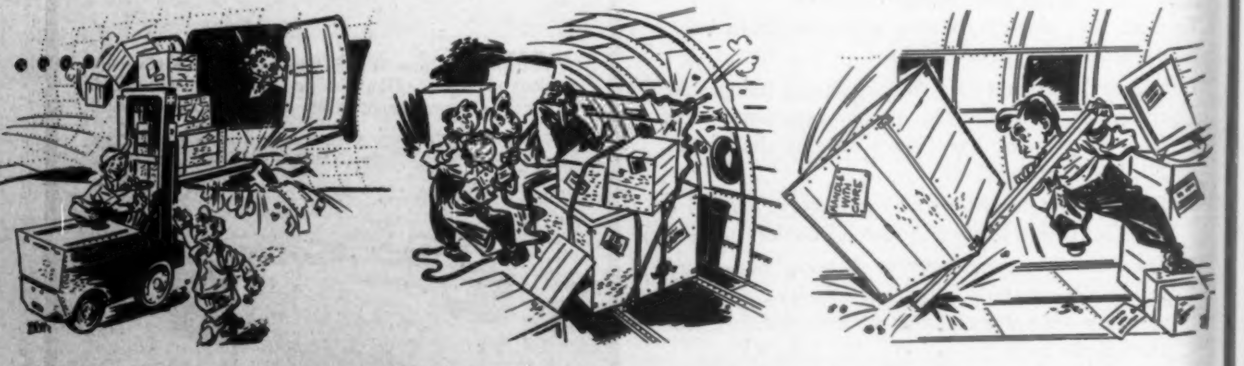
Postwar disposition of surplus military airports and airport properties in the best interests of civil aviation and under the direction of the Civil Aeronautics Administration is advocated by Charles B. Donaldson, Director of Airports for CAA.

Donaldson testified during the fortnight before the Manasco subcommittee of House Public Buildings and Grounds Committee, currently considering legislation directed at the postwar disposition of government-owned real property.

CAA's chief concern is that airports constructed, or partially constructed, by Federal and local governments in the pre-war, but now occupied by the armed services, should revert to public ownership after the war and not "fall into the hands of private individuals," Donaldson stressed. Army and Navy, he pointed out, have acquired portions of properties on these fields and also made their own additional installations. He recommended that control and ownership of the ports, as well as the burden of maintenance, be given State and Municipal governments—not the Federal Government—but suggested that the CAA was the appropriate agency to oversee disposition.

Airfields built by the Army and Navy under the war program, but not needed by the armed services in the postwar, Donaldson proposed, should also be disposed through CAA. Civil aviation's development should be the first consideration in their disposition, he said, and they should not be put up immediately for public auction. If it is found by CAA that these fields have no value for civil aviation, their disposition could then be turned over by CAA to a general government agency handling disposition of war properties.

Airfields retained by the armed service as defense standbys in the postwar, Donaldson thought, should be maintained and operated by the services and not by the CAA.



Some Don'ts: How NOT to handle air cargo is depicted in a series of pointed cartoons prepared by Douglas Aircraft Co. for a manual soon to be published by the 39th Air Freight Wing, Air Service Command. Sets of the cartoons will also be distributed to all domestic airlines for use as good-natured reminders about the causes of damage to aircraft and cargo. R. J. Pfeiffer, contract administration transport aircraft for the company, and Douglas cartoonist Wilson Cutler, worked out the series. Three of the cartoons are shown above.

Another Corsair Victory
ARMY
E
NAVY

Ever since it first saw combat duty with the Marines in the South Pacific, the Vought Corsair has established a fighting record that speaks for itself. Today this fast, tough, hard-hitting fighter is rolling off the lines in ever-increasing quantities.

In recognition of an outstanding production achievement, the Army and Navy have conferred upon Chance Vought Aircraft the Army-Navy "E".

CHANCE VOUGHT AIRCRAFT
STRATFORD, CONNECTICUT
ONE OF THE FOUR DIVISIONS OF UNITED AIRCRAFT CORPORATION

Kansas City Meeting Discusses Local Air Service Problems

PROBLEMS in connection with the furnishing of air service to small communities were discussed last month at the Heart of America Local Air Service Conference held in Kansas City under the auspices of the Chamber of Commerce's aviation department.

The meeting, said to have been an outstanding success, was attended by 310 people. A total of 92 towns and cities in the Kansas City trade area was represented out of 135 such cities invited. Airlines participating included Braniff, Continental, Delta, Mid-Continent, TWA and All American. Prospective carriers included Eagle Air Lines, Kansas City Southern Transport Co., Parks Air Transport, Consolidated Air Lines and Automatic Air Mail Inc.

Included in speeches given at the conference were the following:

J. W. Miller, president of Mid-Continent Airlines, speaking to the smaller cities, warned that "the opportunity to bring air service to your community is also an opportunity to make costly mistakes. Indiscriminate planning on the part of the smaller cities for the widespread 'over-construction' of airports may well result in a millstone for both the community and the air transport industry. In bringing this problem to your attention I do not attempt to minimize the industry's responsibility in this matter. Certainly we should furnish leadership of a type that will help avoid such a condition."

The policy for each community should be one of "complete preparedness," including location of prospective airport sites, etc., he said, but cautioned that final selection and actual construction should not be undertaken until equipment and operating problems are solved. While waiting, each city should undertake "certain basic fact-finding programs"—determining travel habits, community of interest, etc., he suggested.

"There is no doubt," Miller said, "that thousands of such communities throughout the U. S. are entitled to and will receive the benefits to be derived from a well-devised system of air routes commensurate with their needs." He warned, however, that there are many problems which the airlines must solve and that "inflationary expansion into areas which ultimately will be unable to support such service would be a mistake. Unsound development could well prove to be a burden to both the community and the carrier."

The brilliance of air transport's future "can be dimmed by over-expansion, or by poor planning of routes and services," E. Lee Talman, executive vice president of TWA, told the conference.

"Routes should be granted," Talman said, "on the basis of economic justification and not on the basis of mere ambitions of the applicants. There are many ideas being voiced today relative to feeder services which are basically unsound but which are dangerously attractive because they are designed to appeal to all people and to promise many types of services which are not economically justified. To illustrate, one of the motor carriers apparently has suddenly recognized the future of air transportation and proposes to enter that field by outpromising anything which anyone with airline experience would propose. It is significant that this 'promise everything' proposal comes from a motor carrier which even today has not recognized that there is a big transportation field for it in providing feeder service *on the ground* to various airports. . . ."

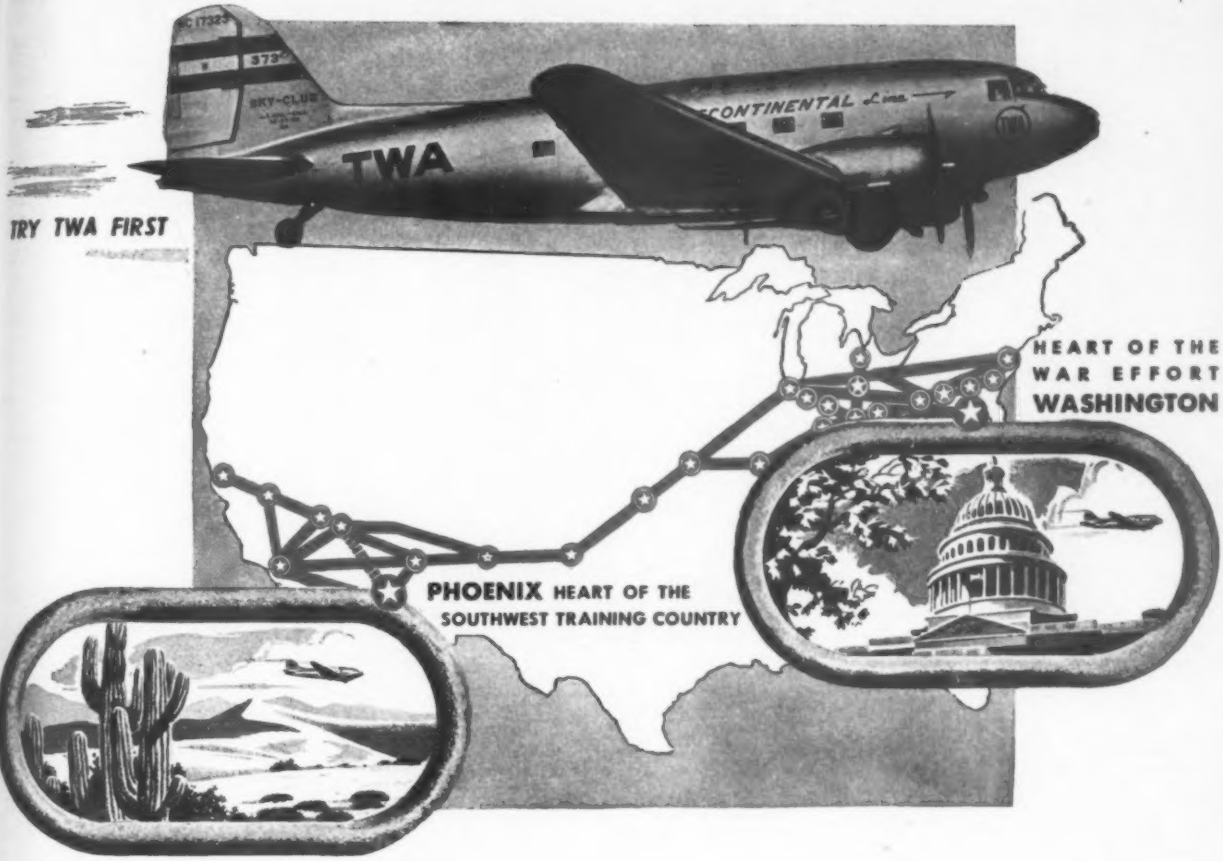
Talman said that airlines naturally concentrated on long-haul business in the earlier days, but that even before the war short-haul traffic was considered important. TWA, he said, desires to serve small cities along its system. "Our plan will provide trunk line service to most of the towns of 5,000 or more population in our route territory east of Kansas City. Our studies show that those towns of 5,000 or more . . . which will not be directly served will be on the average of 5 to 10 miles from an airline stop. Communities with populations of less than 5,000 would be served by air taxi operators or air mail and express pickup services. . . .

Charles L. Gallo, assistant to TWA's vice president-traffic, told the meeting that "it seems to us that the greatest public need will be met first through the logical orderly development of local services by existing trunkline operators to points situated on or adjacent to trunkline routes, and secondly, through the expansion of air mail-express pickup services and the establishment of air taxi service so that small communities which cannot support direct air servce will not be without the benefits of air transportation." He also stated that "the development of both long and short-haul traffic is vital to the economy of a carrier. A transportation agency cannot exist without a composite flow of traffic. More important still, is the fact the public needs and demands both long and short haul services from the same carrier. That need and demand cannot be ignored by any common carrier operating under a franchise granted by the Federal government."

W. Haley Reed, secretary and counsel for Consolidated Air Lines, explained that his company is composed of various flying services (including Roscoe Turner, Leslie Bowman, Wm. A. Ong, E. W. Wiggins, F. C. Anderson and Leo Brennan, Don Pratt, Roy Mahon and James C. Johnson) who "came to the conclusion that the services contemplated could best be rendered by the coordination of all their activities through one parent organization with all of the interested fixed base operators being members of the board of directors, and each in charge of operations for the parent organization within their respective communities, thereby combining the resources, facilities and personnel of the various organizations into one strong, efficient operation and enabling the shifting of equipment and personnel from one area to another to coincide with the varying demands of the various communities served and thereby bring about a more flexible and higher standard of operational efficiency."

Attend 'Heart of America' Conference

Some of those in attendance at the recent Local Air Service Conference in Kansas City were, left to right, seated: Alden B. Woodbury, vice president, Parks Air College; E. Marion Johnson, director of planning and research, Delta Air Corporation; E. Lee Talman, executive vice president, Transcontinental and Western Air, Inc., Terrell C. Drinkwater, executive vice president, Continental Air Lines, Inc. Standing: S. W. Fordyce, III, assistant to president, Kansas City Southern Transport Co.; Frank N. Buttomer, director of research, Mid-Continent Airlines, Inc.; Harry R. Stringer, vice president, All American Aviation, Inc.; Charles E. Beard, vice president, Braniff Airways, Inc., W. Haley Reed, secretary and counsel, Consolidated Air Lines, Inc.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Demobilization of War Industries Widely Discussed in Washington

GOVERNMENT THINKING on demobilization of war industries is gradually becoming clarified, developments of the past fortnight indicated. Proposals for a variety of methods of providing quick cash, and disposing of surplus government facilities have been presented by War, Navy and Justice Department officials.

None of the present methods used to finance war production is satisfactory for termination financing, according to Brigadier General Albert J. Browning, Army's Director of Purchases.

"Of these methods," he said, "private bank loans, RFC loans, and Federal Reserve Bank 13-B loans, even if available, do not protect the borrower during the settlement period from the danger that the loan will be called before final settlement. Neither does it make working capital immediately available. Advance payments for war production provide some protection but no cash to finance normal business."

V-Loans Analyzed

He pointed out that Regulation V-loans made by local banks and guaranteed by procurement agencies give contractors considerable relief on termination and can be used for working capital to finance receivables, inventory, work in process, and amounts payable to sub-contractors. But they are "relatively complicated so long as the money is usable for production as well as termination," he said.

Browning believes three requirements essential for adequate financing: interest must be allowed on termination to equalize the position of contractors using private rather than public financing; financing methods must be "extremely simple"; and money must be advanced against inventory, receivables, work in process and payments to subcontractors. Two methods combine these requirements:

"A simplified form of guaranteed loan made through existing channels like the present V-loan with a high degree of decentralization, or direct loan to industry by procurement agencies on the simplest sort of security, such as the assignment of the producer's termination claims."

He also urges each company to set up its own termination under responsible officers "to avoid a fatal waste of time when mass settlements are necessary."

The Navy's view on the complementary problem of disposition of surplus materials and facilities was outlined by Under Secretary James Forrestal in a recent speech in Philadelphia.

"Each department concerned," he said, "should certify what stocks of materials or of finished products it regards as unnecessary for its program. These certified items should be turned over to some Federal agency, which should handle the public sale or disposition. The Navy wants to retain the right to certify what is surplus to its needs. Once that is done, the Navy would prefer to have the responsibility for disposition given to someone else."

Forrestal advocated the return of new facilities built for war production to the national economy for private ownership and operation, with one qualification: that the Navy should retain as permanent parts of its arsenal those special plants which it deems essential to both peace and wartime operation.

But the aircraft industry alone has received $3,150,000 in facilities for war production, according to Fred E. Berquist, Justice Department economist.

"Their introduction into the domestic economy would result in an unbalance in terms of normal, progressive additions to national plant capacity," he believes. He explained that capital expenditures for plant and equipment in the aircraft industry in the normal years of 1935 to 1939 amounted to only $83,000,000 or only 1/40 of new facilities for air craft. An additional problem is raised since many of the new aircraft facilities, unneeded by the industry, will have a "low degree of convertibility for civilian production."

Some of the negotiation alternatives for disposition of these Government facilities suggested by Berquist were: fixed price-long term purchase terms, sliding scale purchase plans, leasing arrangements on fixed and variable bases, leases with option to purchase and sale or lease of partial facilities. He said every effort must be made to make large war plants available in part or in whole to small enterprises. Finally, he recommended that Defense Plant Corp., immediately prepare and circulate an overall catalog giving location, value, size, etc. of all Government plants to enable industry to make postwar plans.

SAE Schedules Aircraft Topics for Conference In Detroit, Jan. 10-14

Technical papers on aircraft and aircraft engines are scheduled to be read at the annual meeting of the Society of Automotive Engineers in Detroit, January 10-14, which is being billed as "a practical wartime engineering conference with postwar implications."

The tentative program calls for discussion of both wartime and postwar engineering uses of materials, including aluminum, magnesium, synthetic rubber, plastics, and steel, with emphasis on new materials. One session will be devoted to a discussion of methods of expediting wartime production, another to possible peacetime methods of planning production so as to make the most of materials, machines, and processes.

"The SAE War Engineering Program has enabled automotive engineers to render valuable advisory services to the military, and their work is yielding by-products of real postwar value," said John A. C. Warner, general manager of the SAE, who announced plans for the conference last fortnight. "These postwar potentialities became so obvious in preparing the program that it was decided to make them a part of general automotive engineering knowledge."

Network of Flight Control Centers Completed by Army

Completion of a nation-wide network of flight control centers to reduce the hazards of flying in the United States is announced by the War Department. Final links in the chain have been added with recent activation of centers at Minneapolis, Chicago, Detroit, Cleveland, and Pittsburgh, raising the total located at strategic control points to 23.

Coordinated with and using communications facilities of the Civil Aeronautics Administration, the centers provide Army fliers in every section of the country with the Pilots' Advisory Service, which gives point-to-point flights protection against unforeseen weather or other hazards developing after take-off.

Extending from New England to Southern California, and from the Pacific Northwest to Florida, each of the protective control centers is staffed by between eight and ten specially trained AAF flight control officers who have at their fingertips the latest information on weather, traffic, field conditions and other factors which might interfere with successful completion of point-to-point flights within and through their respective areas.

PAS Permits Close Contact

The Pilots' Advisory Service permits the maintenance of close contact with fliers on cross-country missions and was conceived to reduce the number of accidents involving military aircraft and personnel. It is designed also to speed the locating and rescue of forcefully grounded planes.

The service is provided by the Flight Control Division of the Office of Flying Safety, Headquarters Army Air Forces, Colonel George C. Price, commanding. Under the plan it has formulated, flight control officers at the various stations are given flight plans of all point-to-point missions within and through their areas, and plot each flight on a huge magnetic map by advancing the individual flight along its pre-arranged route in accordance with its scheduled speed. Positions are checked repeatedly against position reports relayed from communications stations which have been in radio contact with the pilot.

Thus, fliers are given advance warning of hazards which develop in their paths and are in a position to receive without delay any sudden changes in orders. If an accident should happen despite these increased precautions, the approximate position of the aircraft involved will be known, and help can be sent with the utmost dispatch and accuracy.

Under the Flight Control System, pilots carefully plan their flights in advance, accurately report their positions over each radio, and fix and maintain an alert listening watch by radio throughout each flight.

In addition to the five control centers just activated, others are located in New York, New York; Washington, D. C.; Burbank and Oakland, Calif.; Seattle, Wash.; Memphis, Tenn.; Atlanta, Ga.; Kansas City, Kan.; Denver, Colo.; Fort Worth, Texas; Jacksonville, Fla.; San Antonio, Texas; Great Falls, Mont.; St. Louis, Mo.; Albuquerque, N. M.; Salt Lake City, Utah, Cincinnati, O., and Boston, Mass.

House Votes $27,000,000 for Naval Aviation Shore Installations; NATS Aided

A $27,000,000 authorization for additional Naval aviation shore installations, to keep pace with the Navy's growing air activity, was passed by the House last week.

The Navy is allocated $15,264,000 for expansion of air stations on both coasts "to support fleet and sea frontier forces" and $6,579,500 for expansion of aviation training facilities.

The bill authorizes $2,000,000 for additional Naval Air Transport Service facilities near Alameda, Calif., "to meet the rapidly increasing demand for facilities to handle the large increase in . . . transport operations."

Four purposes of the new authorization, as listed by the House Naval Affairs Committee, are:

"(1) To make general increase in personnel facilities at various stations to permit a greater degree of mobility of fleet units. Experience has shown that capacities somewhat in excess of minimum theoretical requirements are necessary to provide for sudden changes of station by fleet units in accordance with tactical requirements.

"(2) To make general increases in basic facilities required as a result of increased plane complements and sizes, training devices, etc.

"(3) To improve runways and taxiways to accommodate the later type of heavy planes.

"(4) To provide facilities for training of personnel and the maintenance and repair of equipment, in connection with new developments in naval aviation."

Following is a breakdown of the authorization:

EXPANSION OF NAVAL AIR STATIONS AND FACILITIES TO SUPPORT FLEET AND SEA FRONTIER FORCES:	
North Atlantic area	$ 940,000
Middle Atlantic area	3,050,000
South Atlantic area	290,000
West Coast area	10,984,000
Total	15,264,000
EXPANSION OF NAVAL AIR STATIONS AND FACILITIES FOR TRAINING:	
Naval Air Primary Training Command	1,808,500
Naval Air Intermediate Training Command	2,261,000
Naval Air Operational Training Command	2,510,000
Total	6,579,500
EXPANSION OF NAVAL AIR STATIONS AND FACILITIES FOR NAVAL AIR TRANSPORT SERVICE TERMINALS	2,156,500
EXPANSION OF NAVAL AIR STATIONS AND FACILITIES PERTAINING TO MATERIAL DEVELOPMENT, FLIGHT TEST AND AIRCRAFT DELIVERY UNITS	3,000,000
Total	27,000,000

Rep. Bender Favors Gen. James Doolittle For Air Cabinet Post

Rep. George H. Bender (R., Ohio) in a House speech during the fortnight called for creation of a new Cabinet officer, a Secretary of Aviation, and recommended that Maj. Gen. James Doolittle fill the post.

The proposed Secretary would deal with both military and commercial aviation.

"Our British Allies have enjoyed the services of an Air Ministry for a long period; it is time we caught up," Bender declared.

Stating that military aviation has already demonstrated itself in the present war and that commercial transport "will be magnified beyond all belief within the next decade," Bender asserted:

"It is startling to realize that at this late date our own Government has no clearly defined policy with respect to American aviation rights in the thousands of landing fields our men have carved from the soil throughout the world. It may be a grave disaster if we do not speedily rouse ourselves from the lethargy of this do-nothing policy.

"A nation which does not recognize the overwhelming importance of a proper development of both commercial and military aviation in these times is burying its head in the sand. It is true that our several services are developing splendid aircraft for their particular needs. Army, Navy, and Marine planes are being constantly perfected. But there is no agency of the Federal Government primarily concerned with aviation in all its phases."

Doolittle, Bender said, would "start America off gloriously into the age of flight which looms directly ahead."

3rd Attempt Made to Get Congressional Approval For 'WPA Airport' Funds

A third attempt to get Congressional approval of funds for completion of WPA-started airports, throughout the country, was made last fortnight by the Senate Appropriations Committee which tacked a $9,907,890 rider to the First Supplemental bill for completion of 31 ports.

A few weeks ago, the House defeated by one vote an amendment which would have provided $6,756,918 for completion of 24 ports. Last summer the House knocked out a Senate amendment to an appropriation bill which would have accomplished the airport completion project.

Airports which will be developed if the Senate Appropriation Committee's amendment carries are located at:

California—Merced; Colorado—Pueblo; Connecticut—Danbury; Georgia—Winder; Idaho—Idaho Falls; Indiana—Bloomington; Iowa—Des Moines, Iowa City; Kansas—Pittsburg; Louisiana—Opelousas; Maine—Dexter; Maryland—Cumberland; Massachusetts—Boston; Michigan—Menominee; Minnesota—Eveleth, Hibbing, International Falls; Nebraska—Beatrice, Freemont; Nevada—Battle Mountain; New Mexico—Raton; North Carolina—Burlington, Rockingham; North Dakota—Valley City; Oklahoma—Holdenville; Texas—Henderson; West Virginia—Clarksburg; Wisconsin—Eau Claire, Oshkosh, Siren; Wyoming—Sheridan.

In reporting out the First Supplemental, the Senate Committee left untouched House-approved allocations of $17,287,715 for National Advisory Committee for Aeronautics, $2,756,000 for Civil Aeronautics Administration, $280,000 for 1943 domestic airmail indemnities and $22,779 for airmail payment to All American Aviation, Inc.

Helicopter Course Added at New York University

A course in "Helicopter Theory and Application" has been added to the graduate division of the college of engineering, New York University to meet the widespread interest for advanced study in the rotary aircraft field.

The course is being taught by Professor Alexander Klemin, Guggenheim Research Professor of Aeronautical engineering, and three credits per term will be given for this work.

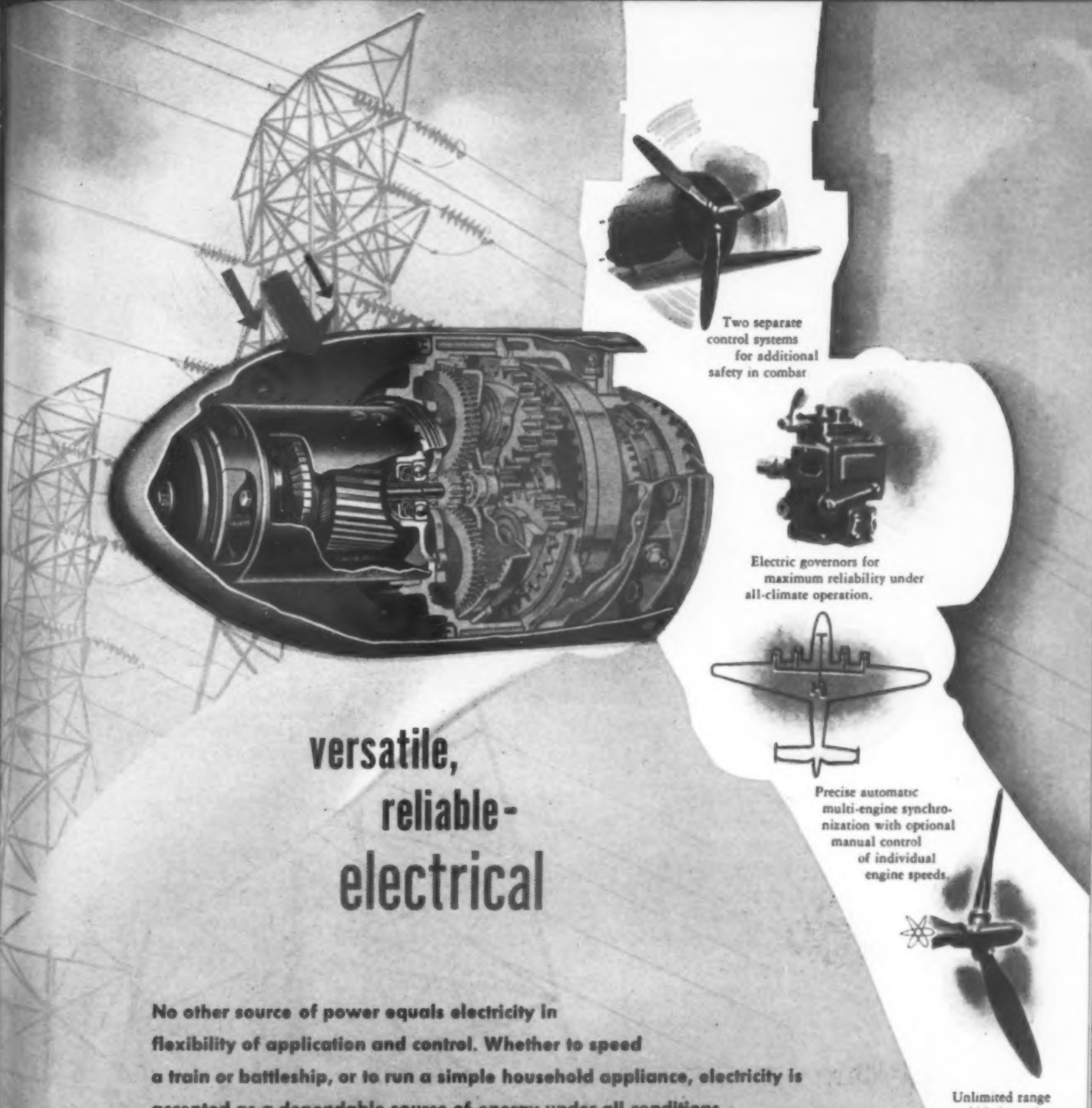
According to the college announcement of graduate courses for the academic year 1943-1944, the course will cover the following: "Basic principles and possibilities of rotary aircraft (including autogiro). The lifting airscrew in relation to the propulsive airscrew and the theoretical principles common to both. Elimination of torque in the helicopter. Theory of the lifting rotor in vertical motion and hovering flight. Flapping and feathering rotors. Control. Stability and gyroscopics. Elements of design. The helicopter as a problem for the propeller designer. The helicopter as a problem for the mechanical engineer."

Rockford Votes For Airport

The town of Rockford, Ill., recently voted 12 to 1 to create an airport authority empowered to establish a municipal airport. The project has been advocated for many years by a group of citizens among the leaders of which is Dr. Francis H. Spickerman, of the Aviation Committee. The overwhelming vote in favor of the plan probably is without precedent in the U. S., according to Ben Regan, chairman of the Illinois Aeronautics Commission. Members of the airport authority will be appointed by the mayor and county judge.

WTS Needs 3 Warehouses

The War Training Service of CAA is looking for three bonded warehouses to store surplus planes and parts which it expects to receive from the Army and Navy. W. L. Jack Nelson, assistant to the director, hopes to locate these warehouses in the general area of Harrisburg, Pa., Kansas City, Denver or Salt Lake City. A minimum of 10,000 square feet will be required at each location. A portion of these planes and equipment will eventually find their way to classrooms in high schools and colleges where courses in aviation are taught.



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Hinckley Tells NATA: People Must Feel 'At Home' In Air

A FOUR-POINT PROGRAM designed to make personal flying useful, safe and easy was urged by Robert H. Hinckley, assistant to the president of the Sperry Corp. at the National Aviation Training Association meeting in St. Louis Dec. 3.

Asserting that the American people must become "air conditioned" in the same way that the South Sea Islander is "water conditioned," Hinckley, formerly a CAA official and originator of the Civilian Pilot Training program suggested a program that would provide: 1. Mass aviation education and training; 2. Landing areas and navigational aids; 3. Regulations; 4. Research—human and technical.

"It is my contention that in order to be competent to participate in the social, economic and political aspects of life in a three-dimensional world, our people must be at home in the air, Hinckley declared. "Not just because an air-conditioned population is the best insurance against another Pearl Harbor; not just because expanded flight training will bring prosperity for fixed base operators and private plane manufacturers; not just because the air-conditioning process will produce trained people for aviation and allied industries: It will do all these but it will do something infinitely more important—teach people the meaning of a three-dimensional world."

Hinckley said that people are not thoroughly air-conditioned until they know how to fly and become accustomed to using the airplane in their everyday lives. This means, he said, that we must make it easy for people to learn to fly and easy to continue to fly after they have learned; that we must increase the private airplane's utility to the ordinary citizen, that we must exert every possible effort toward making private flying safe enough to attract even the most timid.

"If we are successful in achieving these objectives, no one needs to fear for the future of aviation in this country," he continued. "The gloomy prophets of little faith would have us believe that private flying will never amount to much because flying is too expensive, too risky, too useless, too this and too that. I grant that there are many things that kept people out of the air in the past—but I say to you that in the future these things need not and will not continue to hamper aviation's growth."

Predicting that private flying can and will be made bigger and better than anyone dreamed five years ago or is forecasting now, Hinckley asked 'The Prophets of Gloom' to "help aviation if you can but if you can't, for Heaven's sake don't get in its way."

Extension of pre-flight education to cover all of the nation's high schools with the air-conditioning process extended to include elementary schools, inclusion of aviation courses not as mere vocational training but "education for life" in college curricula, provision for flight training among high school students, extension of the Civilian Pilot Training program on the college level to every college willing to meet the requirements was urged to meet his idea of mass education and training.

Hinckley urged that if existing airports, owned by all the people, and not by just the airlines, the Army and Navy, are for safety reasons, not feasible for use by the private flyer, then all the people must provide whatever else is necessary to make private flying useful, safe and easy. He urged that landing strips be built along highways, and that sky parks be constructed in the great recreational areas under a cooperative plan involving various government agencies. He stated that teamwork was further necessary on the part of various government agencies in providing the necessary navigational aids.

Under the heading of control, Hinckley urged a simplification of regulations. He inferred that more horse sense was needed in regulatory measures and suggested that properly qualified instructors might give examinations to applicants for pilot certificates and that skilled mechanics could be trusted to examine airplanes for airworthiness.

"I believe that your future plans should include provisions to take the responsibility in these fields instead of saying 'Oh, let the Government do it.' The Federal government must have the responsibility for making the laws regulating aviation. We cannot tolerate a situation where the rules change every time you cross a state line but if you want aviation to be efficient and if you want it to be as free as possible from regulation, you must plan to take responsibilities individually and as groups," he declared.

"We must see to it that private airplane manufacturers receive every possible encouragement in the development of these aircraft for the civilian flyer, for we should realize that the safer, easier to fly, more useful the planes are, the more private flying there will be, and that is our aim," he stated.

Cooking 'Upstairs'

A United Air Lines dietitian is shown experimenting with cooking at high altitudes in the company's altitude test chamber, which is normally used for testing oxygen equipment and new radio installations. The airline's research kitchen, operating as part of the company's food service system, is conducting experiments with dehydrated foods, cooking them on four different sized galleys and under varying atmospheric pressures. Photo shows Jean Arbogust, UAL's dietitian, removing pressure cookers from a lightweight, electrically heated galley.

'Sky Roads' Aviation Exhibit Opens Dec. 15 at Dept. of Commerce

A widely publicized exhibit entitled "Sky Roads", the world in the air, was scheduled to open in the Department of Commerce auditorium Dec. 15 and to continue for one month. A preview for members of Congress and other government officials was arranged for Dec. 14.

The exhibit was brought to Washington by the Civil Aeronautics Administration after a successful showing of several months in the Museum of Modern Art of New York, 53rd Street. The museum is collaborating with CAA in staging the show in Washington.

By means of maps, globes, photographs, drawings and models, the great panorama of the world of the air is depicted from its beginnings in the dreams of man to the world scene of today, and stretching on into the peaceful era of the future where aviation is assigned a prominent place in breaking down the barriers of misunderstanding between the peoples of the earth.

One of the interesting objects in the exhibit is a 50-inch World Globe given by President Roosevelt—a duplicate of the one in his office and the one which he gave to Winston Churchill. Also on display is the "Inside-Out" globe—15 feet in diameter—which spectators can enter and see on its inner surface the continents and oceans of the world.

In connection with the exhibit, CAA is conducting an essay contest for Washington grade and high school students on the subject "The Place of Civil Aviation in the Post War World." Prizes of $100, $50 and $25, in War bonds, have been offered by William A. M. Burden, special assistant for air to the Secretary of Commerce.

Steamship Men Expect Competition

The expected inroads of air services is forcing steamship men to seek the most practical type of ship and propulsion for postwar operation, G. Hilmer Lundbeck, vice managing director of the Swedish American Line, declared in a recent interview in New York. Lundbeck said that plans for postwar construction of passenger-carrying tonnage by his company are being held in abeyance until a reliable estimate of prospective steamship passenger business can be formulated.

Senate Report Asks Postwar U. S. Rights to Chain of 'Ports Along Alcan Highway

Postwar U. S. rights to a chain of airports along the 2,000-mile Alaska highway, running from Edmonton, Alberta, to Fairbanks, Alaska, are asked in a report filed by a subcommittee of the Senate Post Offices and Post Roads Committee during the fortnight.

Members of the subcommittee are: Sen. James Scrugham (D., Nev.), Sen. C. Douglass Buck (R., Del.), and Sen. William Langer (R., N. D.).

The airports were already in existence when the U. S., for defense purposes, embarked on the overland supply route project to Alaska, according to the report.

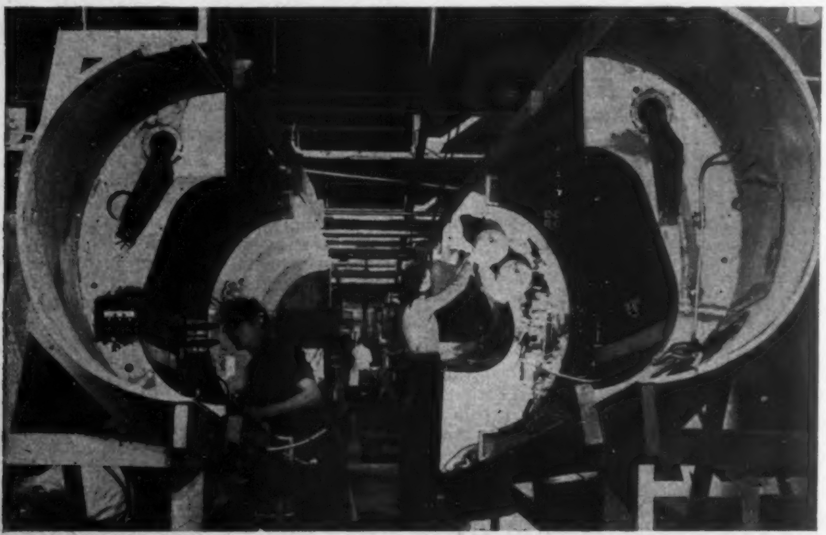
It pointed out, however that "the United States has made a large investment in the facilities of these airfields . . . Improvements made are of permanent value for defense of Alaska and should remain available to us after the war."

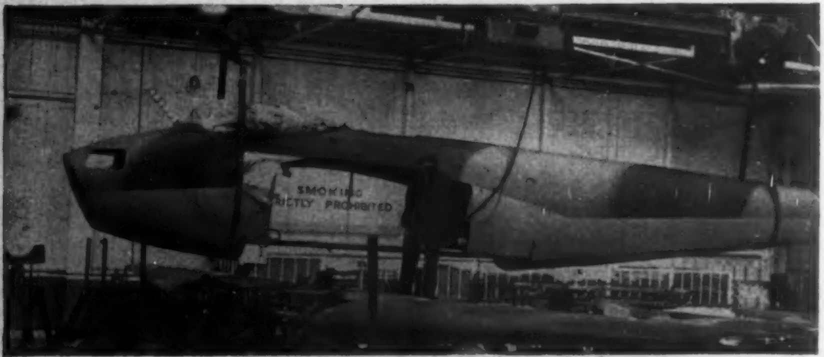
The report recommended that "the War Department . . . request the State Department to initiate negotiations at once with the Canadian Government looking to free use of the airfields after the war."

On this country's overland Alaska supply program, it was observed:

"At the time the project was conceived, it had been determined that Alaska would be defended mainly by air power. This required transportation of planes, not only to Alaskan airfields and bases, but also to intermediate airfields. Some of the larger transports and bombers can be flown from this country to Alaska without refueling or servicing en route. Smaller bombers and fighter planes, however, do not have fuel capacity, required to make a flight of this length, and must be refueled and serviced at intermediate airports during the course of the trip. In any event, in a flight of approximately 2000 miles, it is inevitable that in many instances planes, regardless of their size and fuel capacity, will require repairs or service; they must land to obtain these repairs and be serviced."

Building the de Havilland Mosquito





Thousands of skilled wood workers are now working on production of the de Havilland Mosquito. Others, not so skilled, are employed on the different stages of its simplified construction. Above photo shows girls installing equipment in the two halves of the fuselage, which is divided into seven bulkheads. Electric leads, oxygen bottles, etc., are installed before the two halves are joined. Photo below illustrates how the fuselage is lowered on to the wing.

9 Glider Manufacturers Back 'Glider Institute of the Americas, Inc.'

Formation of The Glider Institute of the Americas, Inc. for the all around development of this phase of aviation has been announced by Otis T. Wingo Jr., executive vice president of The Columbia Survey Inc., of Washington and New York. Wingo was formerly assistant to the president of Allied Aviation Corp. of Baltimore and Winston-Salem, designers and manufacturers of amphibian transport gliders for the U. S. Marines.

Incorporation papers have been filed with the Recorder of Deeds in Washington, D. C. and nine leading American manufacturers of gliders already have signified their interest in the development of the Glider Institute, Wingo stated.

The announced purposes of the institute, as listed in the first communication to the industry, are:

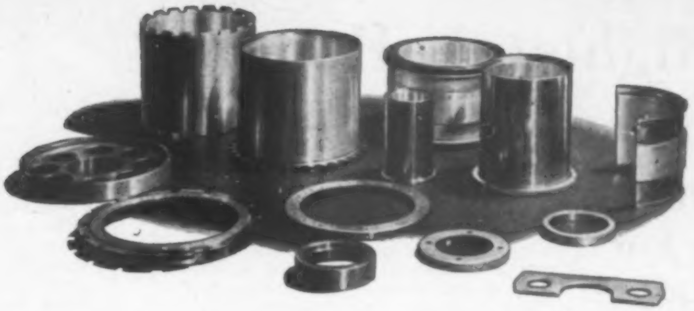
1. Provide an authoritative source and clearing house of available information on military and commercial developments and uses of gliders and towed planes.
2. Accord proper recognition to individuals and organizations making outstanding contributions to the progress of gliders.
3. Aid glider manufacturers, users and enthusiasts in their common problems.

Election of officers of the new organization will take place at some later date.

Shifts Made in Canadian Air Force Top Personnel

C. G. Power, Canadian minister for air, recently announced new appointments in the Royal Canadian Air Force overseas. L. S. Breadner, air force officer in Britain and Canada both in this war and the last, is Chief of Air Staff, replacing Harold Edwards in London. Under Edwards, 36 all-Canadian squadrons have been formed and intimations are that Canadians are now going overseas in complete squadron units.

Other appointments include Air Vice Marshal N. R. Anderson, Walker, Ont., formerly air member for air staff directing operations on home war establishment, as deputy to Air Marshal Breadner; Air Vice Marshal Wilfred Curtis, Havelock, Ont., formerly deputy officer commanding-in-chief overseas, replacing Anderson in Canada; Air Vice Marshal Frank McGill, Montreal, Que., formerly air officer commanding No. 1 air training command at Toronto, as air member for organization, succeeding A. T. N. Cowley, Winnipeg, Man., who replaces McGill at No. 1 A. T. C.; Air Vice Marshal J. L. E. A. de Niverville, Montreal, Que., formerly air officer commanding No. 3 A. T. C. at Montreal, as air member for training, filling the recent vacancy created by appointment of Robert Leckie as chief of air staff succeeding Air Marshal Breadner; and Group Capt. Adelard Raymond, Montreal, Que., formerly commanding officer at No. 2 service flying training school at Uplands, as commander of No. 3 A. T. C. with rank of air commodore, succeeding de Niverville.



MALLORY Bearings Point the Way—

The road to better bearing performance for high-speed engines has been clear since Mallory perfected the Mallosil Process of bonding rare metals to base metal backings.

Mallory Bearings meet the demand for reliability and precision in these days of close tolerances; when aircraft engines must withstand the brutal punishment of high altitude combat action at incredible speeds. Silver-surfaced with amazing precision by the Mallosil Process, Mallory Bearings withstand the crushing pressure, terrific temperatures and fatigue stresses set up in aviation engines.

Their performance in action tells the story. You can depend on the reliability of master connecting rod bearings, rocker bushings, pinion races, counter weight bushings, gear races, spacers and other engine parts made by Mallory.

Present Mallory Bearing production facilities are devoted entirely to War needs. But Mallory engineers are gaining a wealth of experience in applications of the Mallosil Process which will be of tremendous post-war value to manufacturers, not only for high-speed engine parts, but for a host of other products. We shall be glad to discuss the possibilities of the Mallosil Process with you.

This special checking fixture—Mallory designed and built—measures tolerances on Mallory Bearings in split-thousandths. It enables the operator to inspect several dimensions simultaneously and to determine the relationship of one with another. In the photo, the concentricity of the outside diameter is checked with inside diameter and taper.

P. R. MALLORY & CO., Inc., INDIANAPOLIS, INDIANA
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SERVES THE AVIATION, THE AVIATION-INSTRUMENT AND THE AVIATION-COMMUNICATION FIELD WITH WELDING TIPS, THE MALLOSIL PROCESS—BEARINGS, SPECIAL ALLOYS, ELECTRICAL CONTACTS, VIBRATORS, VIBRAPACKS, CONDENSERS, ROTARY AND PUSH BUTTON SWITCHES, ELECTRONIC EQUIPMENT, COMMUNICATIONS HARDWARE, RECTOSTARTERS

Landing Rights to be Handled by Govt. Negotiation—CAB

'Compelling' Reasons Must Be Given For Independent Action

THE Civil Aeronautics Board took pains last fortnight to explain that the acquisition of landing rights for international air operations will be handled for the most part through inter-governmental negotiation.

At the same time, however, the Board admitted that the practice is not to be "arbitrary or inflexible, and any carrier is of course at liberty to present any unusual or compelling reasons which the carrier feels would justify its conduct of independent negotiations abroad."

The Board thus gave the impression that independent negotiations will be the rare exception rather than the rule. In the past, landing rights were handled both ways. Some being obtained through inter-governmental negotiation, others by the carriers affected. Pan American Airways in particular conducted its own negotiations with several countries.

Complete text of the CAB statement follows:

"Prompted by the growing interest and activity in the development of future international air services, a joint press statement was issued on October 14, 1943, by the Department of State and the Civil Aeronautics Board which outlined the respective interests of the two agencies, and which indicated a general procedure to be followed in dealing with applications for foreign routes. As contemplated by this statement, future landing rights negotiated abroad by the Department of State, after consultation with the Civil Aeronautics Board, would be acquired in general terms, and the assignment of such rights to any carrier or carriers would be a matter for determination by the Board.

"Inquiries have been received by the Department of State and the Civil Aeronautics Board as to whether it would be consistent with governmental policy for individual carriers to make direct approaches to a foreign government or a foreign air carrier with a view to obtaining landing rights or making operational arrangements. In answering these inquiries it might be well to cite a few of the reasons for acquiring foreign landing rights on the general basis indicated in the joint press statement. The principal reasons are:

"(a) the desire to avoid a confusing and perhaps embarrassing situation resulting from several carriers competing with each other in negotiations with foreign governments or foreign carriers;

"(b) the desirability of avoiding a situation whereby a carrier which had successfully concluded such foreign negotiations, was later denied a certificate by the Civil Aeronautics Board on the grounds that convenience and necessity did not justify the operation contemplated;

"(c) the desire to avoid the possibility of any exclusive arrangements being negotiated by an individual carrier which would be designed to restrict the power of selection of operating carrier by the Civil Aeronautics Board. In the interest of equity to all U. S. air carriers, the Board could not be influenced in the final selection of a carrier by consideration of special or private arrangements previously concluded by that carrier on its own initiative.

"In the October 14 joint statement referred to above, the eighth paragraph stated: 'Applications . . . are filed with the Civil Aeronautics Board . . . Thereafter, the carrier need only prepare for the hearing before the Board, . . .' While the acquisition of landing rights by means of inter-governmental negotiation is expected to be the general procedure, the practice is not to be arbitrary or inflexible, and any carrier is of course at liberty to present any unusual or compelling reasons which the carrier feels would justify its conduct of independent negotiations abroad. If possible, such reasons should be submitted at the time the carrier files its application with the Civil Aeronautics Board."

Super

In the display windows of the TACA offices in Rockefeller Center, New York, is a model of a Burnelli Super Transport, an all-wing semi-tailless, 220-foot wing-span plane with a gross weight of 250,000 lbs. Its eight duplex motors would produce a total of 24,000 horsepower, according to the sign underneath the model. Canadian Car & Foundry, Montreal, Canada, has the license for the Burnelli planes, one twin-engined type having been built in the U. S. years ago, and one in England.

United Air Line's Key Cargo Men

United's rapidly expanding air cargo department, which is being kept busy with growing loads of air mail and air express, is shown above. Left to right, front row—David E. Fleischner, Seattle; Bruce H. Woods, Omaha; R. L. Mangold, Portland; J. R. Schmunk, Cleveland; C. P. Graddick, director, Chicago; B. C. Koenitzer, Philadelphia; J. R. Haymond, Newark, and Fred F. Dawson, San Francisco. Rear row from left—M. T. Brockman, Paul E. Burbank and Glen C. Evers, all of Chicago; W. J. Hartland, New York; Thomas W. S. Davis, Washington; Robert E. Caskey, Los Angeles, and C. H. Bennett, Oakland.

Steamship Executive Agrees With Airline Man That His Business Faces Competition

A shipping executive and an airline man were quoted last fortnight in New York as convinced that the air services will make inroads into the passenger business of the steamship lines. John E. Slater, vice president of American Export Airlines, told the Propeller Club that shipping men have continually underestimated the rapidity of growth of air transportation.

"It can be demonstrated mathematically," he said, "that 103 passenger aircraft would be sufficient to handle a volume of first class and cabin-passenger overseas traffic equal to the 429,000 which passenger ships carried in 1937, their best year in the last 15 or 20."

In an interview, Lewis D. Parmelee, executive vice president of the Atlantic Gulf and West Indies Steamship Lines, agreed with Slater and declared that steamship companies, even though they view the prospect with distaste, will have to "go into the air business," if they hope to meet the competition of the air services and protect their passenger revenue.

A Fifth Freedom

Many think of the air simply as a thrilling new dimension for man to explore. Actually, it is far more. For here is a great new freedom for man—freedom to move at will, straight as an arrow, from any point on the Earth's surface to any other, unhindered by mountain, city or sea—freedom to range far and wide, as a bird, through the clear and illimitable reaches of the sky.

The all-out effort of all citizens must be concentrated on War until the Axis slave-masters are crushed, if we are to enjoy any freedom. Today Jacobs employees are devoting their utmost to this vital objective—producing engines by the thousands for the United Nations.

After this War is won, the technical developments created by Jacobs engineers and wrought by skilled Jacobs workmen into sturdy, long-lived engines will enable you to use this new freedom of flight with utmost confidence and enjoyment.

JACOBS AIRCRAFT Engines

POTTSTOWN · PENNSYLVANIA · U. S. A.

Railroads Prepare to Meet Air Competition in Postwar Period

THE RAILROADS are determined to do everything in their power to hold as much passenger traffic as possible after the war and are preparing to meet competition from the airplane, the bus and the private automobile, according to *Railway Age*, trade publication.

"It will be a fight, but I enjoy fights . . .," said one railroad executive, discussing the expected competition.

Executives interviewed by the magazine expressed divergent opinions, some believing that the airplane will take most of their passenger traffic, others discounting competition from this source and pointing to the automobile as their greatest worry.

"While I expect that highway competition will make greater inroads into our gross, the airplane will probably make deeper cuts into our net revenues," said one official. "This is to be expected, but we are by no means resigning ourselves to our fate. In fact, I am growing more optimistic daily as to the railways' ability to remain very definite and important factors in the passenger business."

Said another: "Surprising as it may seem, we are not particularly worried about airplane competition in the postwar period . . . I look for much more difficult and vexing competition from the private automobile."

"We were suffering materially from airplane competition prior to the war, and I do not expect it to be much worse in the postwar period, because I hope to be able to combat this competition with streamlined trains and am confident that we can hang on to a considerable share of the business," said another unidentified executive.

Quotations from other officials included:

"Our line is particularly subject to both airplane and private automobile competition."

"Airplane competition will take a large percentage of railway first-class business, but the private automobile (and, quite conceivably, the private helicopter) will offer the most vicious competition."

"While airplane travel will unquestionably show the greater percentage increase, it is the private automobile which will be the greatest threat to railway passenger revenues in the postwar years."

"Where airplane competition will hurt the railways is in first-class mail traffic. I am afraid that the bulk of this will leave our passenger trains for airplanes immediately after the war."

"So long as there were only about 350 passenger-carrying planes in the country, carrying about 20 passengers each, the personalized service created a tremendous sales appeal. When the airways go after mass passenger traffic, they will find this type of selling no longer possible. Already they are tangling with restrictive union rules. I am not saying that they won't take a lot of our business from us, because I am sure that they will, but the utter defeatism in some circles is not going to permeate this railroad if I can help it."

"It is unfortunate, but we feel as a result of careful study, that approximately 80% of our first class travel will go to the airplanes after the war . . . Except for a few overnight first-class trains, we expect to lose the bulk of our business men's travel to the airways. We have regretfully come to the conclusion that this is inevitable."

What the railroads intend to do about the competition is seen in the following *Railway Age* interviews:

"The comfort of railway travel in peacetime so far exceeds that of the plane, the bus or the private automobile that this feature should be stressed."

"We cannot hope to stand pat on our present fare structures. Fares must be reduced and I ardently hope that they will be lowered immediately, before the railways empty their trains by incorrect pricing."

"Streamlined day trains have proved to my satisfaction and that of my associates that in comfort and speed we possess distinct assets for retaining a satisfactory volume of passenger traffic."

"We have plans for increasing the speed of all our trains."

"Fares should be cut to the bone as soon as the war is over . . . The present snail's pace of our trains will have to be improved—by days, not merely by hours."

"I believe we should reduce rates to 1¼c per mile and first class rates to 2¼c per mile immediately. Price is one of the outstanding advantages the railways have over their competition and this weapon has never been utilized fully in the past . . ."

"Coach fares should be reduced to one cent per mile universally. Nibbling at fares will do no good . . ."

"In comfort, the open-section Pullman car is as extinct as the dodo . . . If we can get new 24-roomette cars, with the roomettes priced at present lower berth rates, the occupancy factor will be so high that we can afford to cut our first-class rates . . ."

"Everyone on this railway is unreservedly in favor of lightweight equipment for passenger trains. We will never buy another heavyweight car."

"In the postwar period we will rectify our mistake and give the traveling public what it wants—streamlined trains and plenty of them."

"Our streamliners proved successful in meeting airplane competition before the war. We plan daily departures of these trains and with this frequency of service, we can give the airplanes a run for their money, particularly since we hope to remove the extra fare."

"To compete properly with the airlines, we shall have to run trains of high-speed, lightweight rolling stock for mail and express alone and a fleet of streamliners intended for passengers."

Summing up, *Railway Age* stated that the railways "are preparing to meet competition when it comes. They are by no means unaware of the seriousness of that competition and they are not deluding themselves by minimizing it. Still, a spirit of optimism prevails as to their ability to meet it by modernizing their passenger service and by merchandising it in a manner not heretofore attempted."

Almost a Tie

In a theoretical race between two theoretical cities, the airplane, the automobile and the helicopter would almost run neck to neck, according to Charles Gallo, assistant to TWA's vice president-traffic. The helicopter, however, has a slight edge, nosing out the plane by 10 minutes and the automobile by eight minutes.

At the local air service conference in Kansas City last month, Gallo compared these three methods of transportation in a "race" between two cities 50 miles apart, assuming comparable fares, desirable frequency of service and development of a practical helicopter. By automobile from the house in Town A to the center of City B totals 1 hr. 13 min. (5 min. from house to highway, 48 min. on highway, remainder through outskirts to center of City B). Plane would take 1 hr. 15 min. (15 min. house to airport, 5 min. waiting at airport, 20 min. flying, 5 min. transfer at airport, and 30 min, by limousine downtown). Helicopter would take 1 hr. 5 min. (10 min. from house to landing station, 5 min. waiting time, 40 min. flying and 10 min. from landing station downtown).

"It is highly improbable," Gallo concluded, "that the airplane or the helicopter in common carrier service over short distances will ever compete with the private automobile either from the standpoint of convenience or cost. At least, such a probability would appear beyond the hope of achievement at any time in the foreseeable future."

Ingenious Pilot-Testing Device Being Perfected Under CAA Supervision

A pilot-testing instrument, which combines a recording on magnetized wire of the examiner's spoken observations and instructions with a continuous film of dial action on the instrument panel, is now undergoing tests at five colleges under supervision of the Civil Aeronautics Administration.

The new device furnishes for the first time an objective method of verifying a student pilot's ability, and at the same time, is designed to assist the instructor and examiners in improving their flight-test methods and to provide impartial evidence in case of appeals. The instrument is being used at the five mid-western colleges where pilots are being trained under CAA War Training Service contracts.

New Cleveland PCA Office

Pennsylvania-Central Airlines was scheduled to open a new city ticket office in Hotel Cleveland Dec. 15. Cleveland, one of the terminals of the first PCA route from Pittsburgh to Cleveland, is called by the airline "an important hub in PCA's plans for postwar routes."

Merry Christmas *to all*

and to all a *Good Flight!*

The Christmas Season brings to heart and to mind the friendships of a long and busy year...and the friends of years gone by.

Our entire staff sends greetings to our Aviation Cadets, who are never forgotten after they graduate from our schools of primary training.

To all our friends...in the Armed Forces...in the Aviation industry... and particularly to the hundreds of Army Air Forces pilots whom we had the pleasure of instructing in primary training...wherever they may be...we extend the cordial good wishes of *the Christmas Season!*

SOUTHEASTERN AIR EXPRESS, INC., **a subsidiary of Georgia Air Service, Inc., joins the parent company in saying *Merry Christmas to all . . . and to all a good flight.***

GEORGIA AIR SERVICE, INC.
ATLANTA, GEORGIA
Flight Contractors to U. S. Army Air Forces, Bennettsville, S. C., and Jackson, Tenn.
Lessee-Operator Rickenbacker Field (Cobb County Airport)

Latin American, Caribbean Hearing Scheduled March 15

THE TENTATIVE DATE for the important hearing on new and amended applications for air transport routes to Latin America and the Caribbean area has been set for March 15 by Francis W. Brown, Assistant Chief Examiner for the Civil Aeronautics Board.

There are 18 certificated and non-certificated applicants in the group which is applying for new or amended routes in areas south and east of the Gulf of Mexico and the Rio Grande. In order to eliminate the necessity of applicants attending the entire hearing, Examiner Brown and his assistant, H. Heinrich Spang propose to divide the hearing into two phases, the first phase relating to applicants asking for routes in Mexico, Central America and the Caribbean and the second to those desiring routes to South America in addition to other points.

Applicants listed in the first group are: American, American Export, Caribbean-Atlantic, Delta, Grace, International, Pennsylvania-Central, United Fruit and Waterman. The second group includes: Braniff, Chicago & Southern, Eastern, Gordons North South, Moore-McCormack, National, Pan American, Panagra and Western.

Examiner Brown made it clear at the pre-hearing conference Nov. 17 that whether an applicant has landing rights in a foreign country is not an issue in a proceeding under section 401, hence no evidence touching on this phase of proposed expansion into the foreign field need be submitted.

The pre-hearing report set Jan. 15 as the deadline for filing of case summaries, Feb. 2 for the exchange of exhibits, March 1 for the exchange of rebuttal exhibits and March 15 for the hearing proper. The examiners indicated a desire to avoid another pre-hearing conference if this can be done without hindering the orderly processing of the case for final hearing.

CAL's Denver-Kansas City Route Opens 'Early in '44'

Continental Air Lines' Denver-Kansas City route will be opened "shortly after the first of the year, depending on negotiations with the Army," the airline announces. The new 14-passenger Lockheed Lodestar, on which CAL took delivery Oct. 27, is undergoing overhaul in the airline's Denver maintenance shops in preparation for service on the run.

Present plans call for one round-trip daily between Denver and Kansas City via Salina and Topeka, Kans. A minimum of three round-trips daily is foreseen as more aircraft become available. The route will add 560 miles to the CAL system. Estimated flying time between Denver to Kansas City will be three hours—30 minutes eastbound, and three hours—38 minutes westbound.

Continental applied for the route in 1938, and received CAB authority to operate it Dec. 11, 1942. Air service between Denver and Kansas City is now considered vital to handle an increasing amount of war traffic moving between the west coast, the Rockies, and the midwest.

Inaugurate New PCA Mail Service

Mayor McKelvin of Baltimore and U. S. Supt. of Air Mail Operations Roy M. Martin were on hand recently when Pennsylvania-Central Airlines opened air mail operations between Baltimore and Pittsburgh, and Baltimore and Washington. Left to right—Pilot Bud Baker, McKelvin, Hostess Ruth Marck, and Martin.

Continental's 1943 Report Lists 'Phenomenal Gains'

A net income of $280,819.07, equal to $1.12 a share, is reported by Continental Air Lines for the fiscal year ended June 30. The report shows a decrease of 17.87% in revenue miles flown, but reflects "phenomenal gains" in nearly every phase of the airline's commercial operations.

Passenger revenue totaled $650,754.48, an 88% increase over the 1942 fiscal year, and for the first time in the history of the company's operations approached the level of mail revenue—$685,135. The mail figure was a decrease of 7% from 1942 income in this field, the report shows.

Other facts revealed:

Passenger miles operated—12,797,786, or increase of 61%.

Express revenue jumped 223%; express pounds, 147%.

Pounds of mail carried increased 98%; mail pound miles, 87%.

Terrell C. Drinkwater, executive vice president, said three factors were responsible for the improvement in net income, which is "subject to any adjustments that may be made by Army Air Forces auditors or the General Accounting Office, or through renegotiations of Army contracts:

1. Increases in passenger load factors and revenue passenger and express miles flown, accomplished with less equipment and less revenue miles flown.
2. Elimination of round trip and air travel plan discounts, effective July 1, 1942.
3. Income resulting from Army contract operations.

Balance sheet report shows assets of $1,442,896. Current assets were $933,217 including cash $363,167, accounts receivable $439,520, inventories $130,529. Aircraft and equipment, at cost, less $285,177 for depreciation, $381,666. Intangibles $68,772, prepaid and deferred $59,240. Current liabilities were $465,071 including notes payable $58,320; accounts payable $142,191; accruals $248,483. Note payable $63,180; reserve for aircraft and engine overhaul $11,946. Capital stock, preferred $39,160; common $313,632. Paid-in surplus $186,764; earned surplus $363,711.

Correction

Harllee Branch, member of the Civil Aeronautics Board, cast the negative vote and wrote the dissenting opinion in the Western Air Lines, Inc. mail rate case, which was erroneously reported in the last issue of *American Aviation* as having been the action of Member Oswald Ryan. Ryan did not participate in the decision.

Under the Board's order in this case, Western's air mail pay was reduced to 0.3 mill per pound mile. Branch held that such a rate contained an unjustified element of government subsidy which would produce excessive earnings on the carrier's investment in the mail service. The majority vote was recorded by CAB Chairman L. Welch Pogue and Josh Lee.

"Thunderbolts" land lightly on AEROLS*

Now playing a vital role in the European theater of war, Republic's P-47 "Thunderbolts" are considered the fastest high altitude fighters in the skies. Their "ground performance" is equally superb—for Aerols enable "Thunderbolts" to make swift, sure take-offs and soft, cushioned landings.

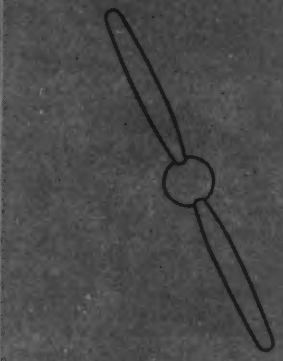
Aerols for "Thunderbolts" and many other great airplanes are now being produced on a mass production basis at our new plant, the largest in the world solely devoted to the manufacture of this important aviation product.

CLEVELAND PNEUMATIC AEROL, Inc.
Wholly owned subsidiary of The Cleveland Pneumatic Tool Company
EUCLID 17, OHIO

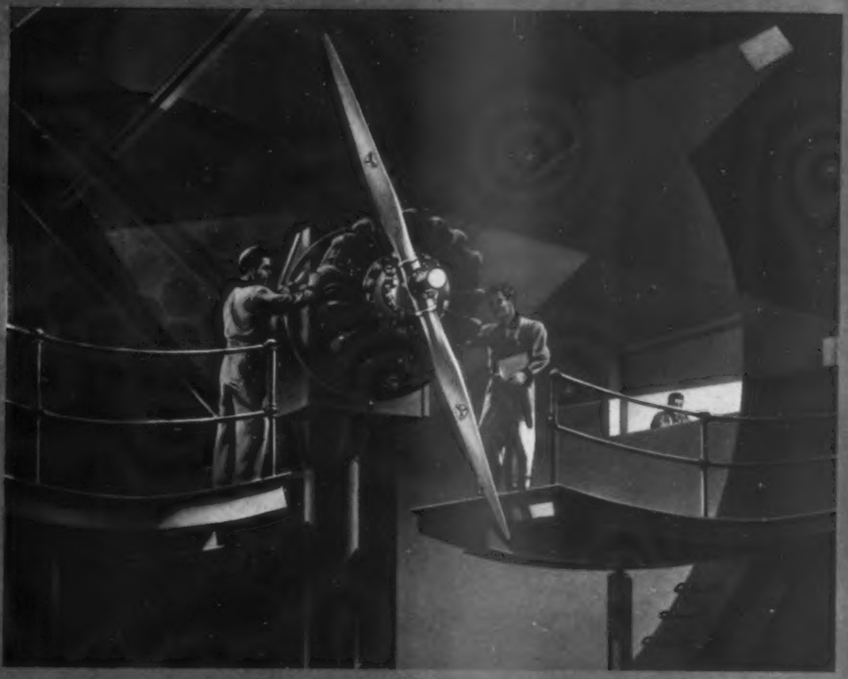
AEROLS*

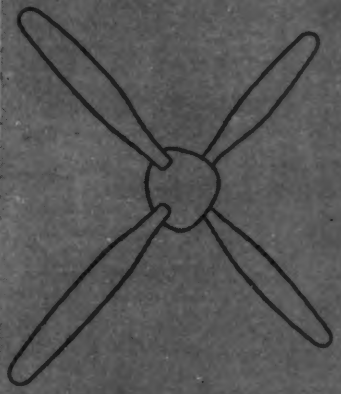
*THE SHOCK ABSORBING UNITS ON AN AIRPLANE'S LANDING GEAR; THE NAME IS DERIVED FROM THE WORDS "AIR" AND "OIL"—THE FLUIDS USED TO DISSIPATE THE LANDING SHOCKS

You, too, will fly behind these

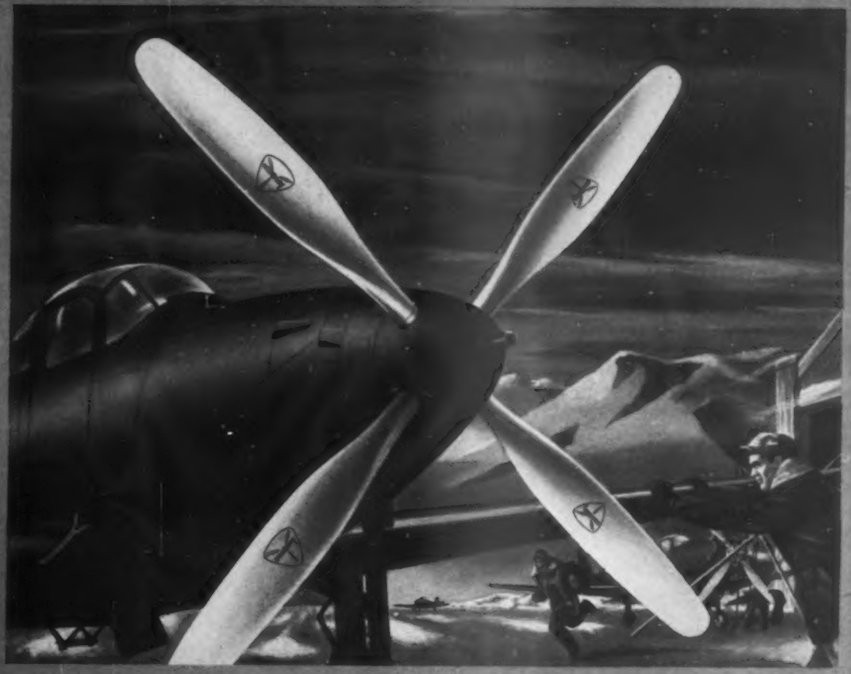


1. The TWO-BLADE AEROPROP is shown on the test stand with blades in full-feathered position. This Aeroprop, embodying all Aeroproducts engineering principles, is specially designed for lower-powered airplanes.





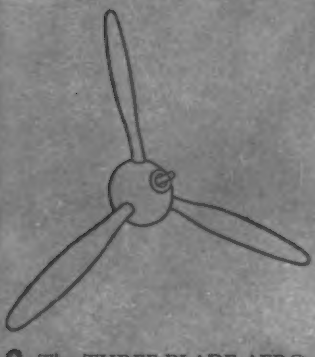
3. The FOUR-BLADE AEROPROP, like its three-blade partner, is versatile, operating either with or without a cannon in its hollow hub. Like all Aeroprops, its pitch action is fully automatic, with the power for pitch changes self-contained in the compact propeller assembly.



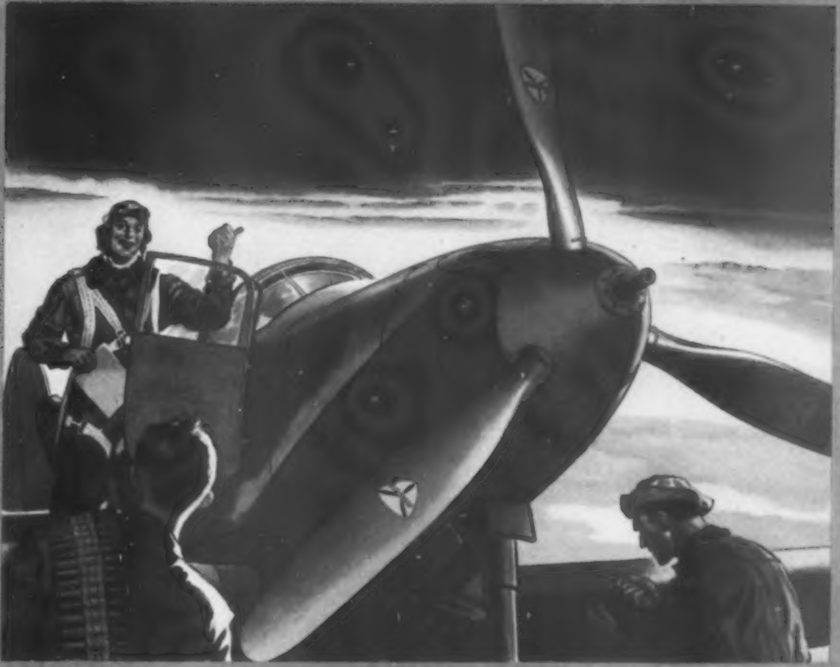
YOU'LL take to the air when this war is won. Perhaps you'll fly behind the two, three and four-blade Aeroprops, designed for service today on many of America's war-planes. Or, perhaps you'll speed through the stratosphere in majestic sky-liners, their mighty engines harnessed by six-blade Dual Rotation Aeroprops. In either case, you will fly in ships whose safety, speed and performance will be enhanced by the advantages of *battle-tested* AEROPROPS.

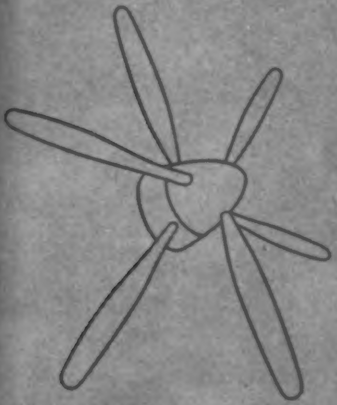
Aeroproducts Propellers are light, strong, simplified—each a merit of great value. Their pitch action is automatic—swift and precise. Their compact, unit-construction simplifies installation and servicing operations, whether used on radial or liquid-cooled engines. These

"battle-tested" AEROPROPS

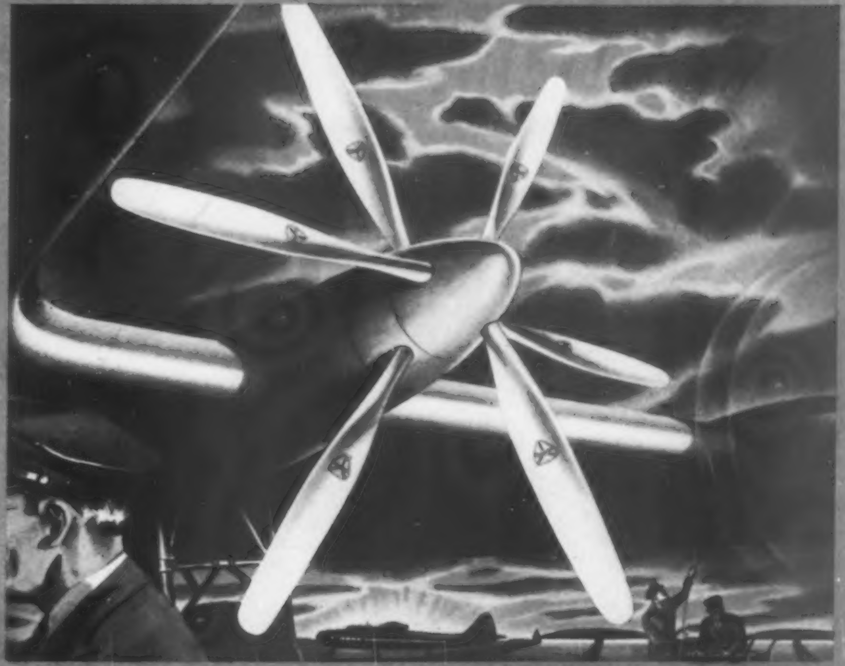


2. The THREE-BLADE AEROPROP is a veteran of many battles. Pilots of many Allied nations have flown it and have praised its flight performance, simplicity, and strength.





4. The SIX-BLADE DUAL ROTATION AEROPROP, which is built for specific military use, is destined for equally big jobs when peace is won. This giant propeller embodies the same simplicity of design that is the basic engineering principle of all Aeroprops.



qualities, now contributing to America's military power, will ride the sky-ways with you in the age of peacetime flight.

* * *

Enlarged lithographs of these four illustrations, suitable for framing, will be sent without charge upon request. Write Department PR, Aeroproducts Division, General Motors Corporation, Dayton, Ohio.

AEROPROP

AEROPRODUCTS DIVISION

GENERAL MOTORS
CORPORATION

GM
ARMS FOR VICTORY

BACK THE ATTACK — WITH WAR BONDS!

"Peace On Earth..."

These words will not always be as empty as they may sound this Christmas! One day they will again assume their full significance. And with that day will come all those fruits of peace for which the world now yearns. And just as the 4-plant facilities of The Weatherhead Company helped American industry build products like the car, the airplane and the refrigerator in the past, in tomorrow's world we will be fully prepared to help you build your post-war products.

Look Ahead with W

Weatherhead

THE WEATHERHEAD COMPANY, CLEVELAND, OHIO
Manufacturers of vital parts for the automotive, aviation, refrigeration and other key industries.

Plants: Cleveland, Columbia City, Ind., Los Angeles
Canada—St. Thomas, Ontario

Six Airlines, One Former Carrier Plan Expansion

SIX OPERATING air carriers, by filing of new or amended applications with the Civil Aeronautics Board during the last fortnight, made known their plans for expansion in either the domestic or foreign field of air commerce.

The carriers requesting new routes of CAB include: United Air Lines Transport Corporation, Chicago and Southern Air Lines, Pennsylvania-Central Airlines, Braniff Airways, Inc., Colonial Airlines, Inc. and Royal Dutch Air Lines (KLM) and a former carrier—Aerovias Nacionales Puerto Rico, Inc.

PCA asked the Board for permission to extend its Washington-Buffalo route through Rochester, New York to Ottawa, Canada. Officials of the air line pointed out that the proposed extension from Buffalo, where it would be linked with present PCA route from Pittsburgh, would give the Canadian capital direct plane service not only to the capital of the United States but also to the industrial section of Pittsburgh and thence southward to Birmingham, Ala. and beyond to Miami and New Orleans and South America if the carrier's expansion plans are fully realized.

United too proposed an expansion in its air service to Canada, asking for a route between Cleveland and Montreal, via Erie, Buffalo and Rochester, in the U. S. and Ottawa as an intermediate point in Canada. United also filed for a route between terminal points—Cleveland and New York, via Ashtabula, Erie, Jamestown, Bradford, Elmira, Binghamton and Scranton-Wilkes-Barre.

Asks Permanent Route

Braniff Airways, recently granted a temporary certificate to operate between the co-terminals, Laredo, Texas and Nuevo Laredo, New Mexico, asked for a permanent route between these points and extending on through Nuevo Leon, Monterrey to Mexico City.

The application of Chicago and Southern is for a route between Memphis and New York, via Chattanooga, Greenville, Winston-Salem-Greensboro-High Point, Richmond and Washington. This proposed route covers 1,086 miles and the carrier stated it would link Memphis, the largest inland cotton market in the world, with the largest textile centers of the nation in the Piedmont. Applicant further stated that the route would provide Memphis, New Orleans, Jackson, Shreveport, Little Rock and Houston with a new single company through service to Washington and New York.

Wants Caribbean Lines

Colonial Airlines filed for routes to the Caribbean area, two of them from New York and Norfolk to Bermuda and a third from Miami to Port of Spain, via Havana, Camaguey, Port au Prince, San Juan, St. John and St. Thomas. Another leg would operate from Nassau to Port of Spain, via Havana, Camaguey, Port au Prince, San Juan, St. John and St. Thomas.

Royal Dutch asked to serve some of this same territory, beginning at Willemstad, Curacao, Netherlands West Indies via Oranjestad, Kingston, Port au Prince, Havana or Camaguey and Miami. KLM now operates over much of this route under a foreign permit issued by the Board. It asked a permanent certificate.

Aerovias Nacionales Puerto Rico, Inc. which lost its fight for air transportation routes in the Caribbean area to Caribbean-Atlantic Airlines by a CAB decision Sept. 30, 1942 filed a strongly worded application with CAB for seven possible routes from San Juan to the following points: Ciudad Trujillo, San Pedro Macoris, Barahona, Port au Prince, Santiago, Cuba, Santiago De Los Caballeros and Cape Haitien. The Puerto Rico applicant claimed that "Caribbean-Atlantic has demonstrated it is not fit, willing and able when after 17 months (July 1942 to December 1943) it has not flown the route San Juan, Ponce and Mayaguez three times daily neither has it installed a radio system, insured passengers and aircraft, purchased modern aircraft or fulfilled the safety regulations of the Civil Air Regulations."

Warner Dessents

When the Board gave Caribbean-Atlantic the routes in the area, Vice Chairman Edward P. Warner filed a strong dissenting opinion, claiming the Board's order compelling Aerovias Nacionales to terminate its operations in 180 days "sweeps away the work of one of these carriers." Chairman L. Welch Pogue and Member Harllee Branch admitted the decision was a difficult one and ruled against Aerovias Nacionales largely on the basis of its history of irregular and disrupted service.

In the new application, Horacio Basso Varela, vice president and secretary of the carrier, pointed out that his company had been the victim of "rumor-mongering by interested parties in Puerto Rico, the Virgin Islands and Washington, D. C. which prejudiced Aerovias' case."

Canadian Pacific Application

Permission to operate passenger planes between Saint John, N. B., and Halifax, N. S., is sought by Canadian Pacific Air-lines, Ltd., in an application recently filed with the Canadian Department of Transport. The airline states that it is prepared to start service within seven days after receiving the necessary permit.

R. A. Dick, WAL Executive, Heads Southern California Chapter of NAA for 1944

Richard A. Dick, general traffic manager of Western Air Lines, was elected president of the Southern California Chapter, National Aeronautic Association, at the annual meeting in Los Angeles, Nov. 19. He succeeds Jack West, head of West-Marquis, Inc.

Officers and board members elected are: V. A. Kemmerrer, Lockheed, first vice president; Dudley Steele, manager Lockheed Air Terminal, second vice president; Glen B. Eastburn, Los Angeles Chamber of Commerce Aviation Dept. manager, secretary; E. L. Hollywood, Air Transport Manufacturing Co., treasurer.

Other board members for the coming year include Thomas Wolfe, vice president, traffic, Western Air Lines; Larry Therkelsen, vice president, Westcraft, Inc.; Joseph Nikrent, president, Nikrent Machine Shop; Ted Woolsey, Air Transport Manufacturing Co.; James Read, CAA; Ariel Harris, U. S. Aviation Underwriters; Charles Kidder, Aircraft Industries; Bert O'Hanlon, president, Westcraft Inc.; Reginald Burrows, *Western Flying;* Peggy Guetter, *American Aviation;* Woodruff DeSilva, manager, Los Angeles Municipal Airport; Herbert Harley, American School of Aircraft Instruments; Leonard Comegys, attorney.

William P. Redding, executive vice president of NAA, attended the annual dinner meeting which featured a discussion by Robert L. Smith, president of the Los Angeles Airport Commission, on the city's airport development program.

Richard A. Dick (second from left), general traffic manager of Western Air Lines, is shown receiving the gavel as president of the Southern California Chapter, National Aeronautic Association, from Jack West, of West-Marquis, Inc., retiring president. At left is Bertrand Rhine, past president. William P. Redding, executive vice president of the NAA is at right.

32 New Dockets Assigned By CAB In 2-Week Period

THIRTY-TWO NEW docket numbers were assigned to new and amended applications for air transport routes in CAB's docket section between Nov. 21 and Dec. 6.

Included in the filings during the last fortnight are eight new dockets created by CAB after it had removed portions of certain proposed routes from applications on file in order to regionalize certain applications for purposes of a consolidated hearing. Because a considerable number of applications were for routes in an area roughly bounded by Pittsburgh and the Great Lakes on the north and Jacksonville, Fla. on the south, the Board deemed it necessary to re-write some of the applications and assign new docket numbers.

It appears this will continue to be the Board's policy in cases where the applicants seek routes in a general area, yet have segments which extend into areas which do not conform to the general pattern. While this procedure causes considerable extra work and confusion in the Docket section, at present it appears to be the only way that the Board can realize its desire to consolidate hearings.

A brief summary of the applications filed follows:

Aerovias Nacionales Puerto Rico, Inc.

This former carrier filed for routes in the Caribbean area out of San Juan. (Docket 1196) See story on Page 47 for details.

Aircraft Sales Co.

Leslie H. Bowman, President of this company located at Municipal Airport, Ft. Worth, Texas filed for 3 air transport routes with many intermediate points: Ft. Worth to Oklahoma City; a circular route beginning and ending at Ft. Worth; Ft. Worth to Houston and Ft. Worth to Laredo. Applicant is a fixed base operator and asked to transport persons, property and mail in local-feeder-pickup operations with conventional aircraft. (Docket 1208).

Alaska Star Airlines

This carrier of Anchorage, Alaska asked permission of CAB to suspend service at Cripple Landing where a sand bar in the Innoko river has been used as a landing field. The application stated that there are no landing fields in the area and that high water makes it impossible to use the sand bar 90% of the time and even when the bar is out of water, the landing is a highly hazardous operation. (Docket 1188)

Braniff Airways, Inc.

Carrier filed for a permanent certificate between co-terminals Laredo, Texas-Nuevo Laredo, Nuevo Leon and Mexico City via Monterrey. (Docket 1194)

Cambridge Taxi Co.

Applicant of 2 Bay Street, Cambridge, Mass. filed an application to conduct a helicopter taxi service between Cambridge to points in Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut and New York. Applicant now operates a fleet of 75 taxi-cabs. (Docket 1212) Frank P. Magann, president of the Cambridge Taxi Co., filed in his own name an application for identical service. (Docket 1213)

Read Quenten Chalfant

A request to operate a helicopter taxi service between Allegheny Airport to a point near the confluence of the Allegheny and Monongahela rivers so as to eliminate a 50 minute automobile ride between the airport and downtown Pittsburgh was filed by Read Quenten Chalfant, 39 Dinsmore avenue, Crafton, Pittsburgh. Applicant also requests permission to land at various other river points in the Pittsburgh area to transport passengers, mail and commodities between various river towns and between these towns to and from the river landing in downtown Pittsburgh. (Docket 1190)

Chicago & Southern Air Lines

Applicant filed for extensive new routes between Memphis and New York. (Docket 1198) Details of this application are found on Page 47.

Landon Lawson Clevinger

Applicant of Centralia, Wash. filed for a route for transport of persons, property and mail between Crescent City, Cal. and San Francisco via 14 intermediate points. (Docket 1186)

Colonial Airlines, Inc.

This carrier filed for routes to the Caribbean area, via New York, Norfolk and Miami. (Docket 1207) Details on the routes requested may be found on Page 47.

Consolidated Applications

In a consolidation order affecting applications of American, Eastern, National, Delta, PCA, State Airlines, Air Transport Corp., Virginia Central Airlines, Hamish Turner and Carolina Scenic Coach Lines for air transport routes in the area between Pittsburgh and the Great Lakes on the north and Jacksonville and Miami on the south, CAB created 8 new dockets—Nos. 1199 to 1206 inclusive. By lifting certain portions from applications now on file by these applicants, the Board, through its consolidation order, is able to conduct a hearing which will affect a definite area in the U. S.

Fullwood and Roquemore

These applicants with addresses of Box 768, McAllen, Texas, and Box 64, Edinburg, Texas, respectively, filed for a route to transport passengers, property and mail between McAllen and Corpus Christi with no intermediate stops. Applicant would use conventional type aircraft. (Docket 1193)

Great Lakes Air Transport, Inc.

This steamship company of 223 Erie St., Buffalo, filed an application for four air transport routes for integration with its steamship operations on the Great Lakes. The applicant asks for what it termed a main line route between New York and Chicago, via Detroit and Buffalo, an Eastern division route between Boston and Washington, via New York, Philadelphia and Baltimore; Western division between Chicago and St. Louis, via Milwaukee, Minneapolis-St. Paul, Duluth, Omaha and Kansas City and Cleveland-Pittsburgh division between New York and Detroit, via Pittsburgh and Cleveland. Applicant proposes to transport mail or cargo in freight carrying types of planes such as or similar to Curtiss-Wright Cargo Transport Commando. (Docket 1197)

Iowa Airplane Co., Inc.

Applicant through F. C. Anderson, president, Municipal Airport, Des Moines, Iowa filed for nine routes for transport of persons, property and mail in local-feeder-pick-up operations between terminal points: Des Moines and Iowa City; Mason City, Iowa and Dubuque; Sioux City and Mason City; Dubuque and Minneapolis; Grand Forks and Minneapolis; Sioux Falls and Rochester, Minn.; International Falls and Duluth; Brainerd and Minneapolis. Many intermediate points are listed for each route. (Docket 1211)

PAA Office Abolished

Pan American Airways, Eastern Division, announces that the office of construction engineer, headed by Frederick J. Gelhaus, has been abolished and Gelhaus has been named superintendent of Airport Building and Maintenance in Miami to meet the needs of new developments both in Miami and along the airline's Latin American routes. W. F. Godwin has been appointed division superintendent of airport and maintenance for the Caribbean area, with W. E. Thomas as his assistant.

Massey & Ransom Flying Service

Colorado State College Airport, Fort Collins, Col. filed an application for two circular routes out of Denver covering proposed service to a score of cities in Colorado, Nebraska and Wyoming. (Docket 1192)

Ong Aircraft Corp.

William A. Ong, president of this company, Box 214, Kansas City, Mo., filed for six circular routes beginning and ending in Kansas City for transport of persons, property and mail in local-feeder-pickup operations. Applicant operates a flying school. (Docket 1210)

PCA

This carrier filed application for an extension of its Washington-Buffalo route to Ottawa, Canada. (Docket 1195) See page 47 for details.

Plaza Express Co., Inc.

This company located at 1035 South 10th St., St. Louis, Mo., filed today for seven routes for air transportation of property in Missouri, Illinois, Ohio, Tennessee and Louisiana. Applicant proposes to use helicopters and conventional aircraft. (Docket 1185)

Royal Dutch Air Lines

KLM filed for a permanent certificate between Willemstad, Curacao, Netherlands, West Indies and Miami. (Docket 1187) See page 47 for details.

The Roscoe Turner Aeronautical Corp.

Through Roscoe Turner, president, Municipal Airport, Indianapolis, Ind., this company asked for a certificate to transport persons, property and mail in local-feeder-pickup operations between the following terminal points: Effingham, Ill. to Pittsburgh; Memphis to Detroit; Chicago to Cincinnati; Detroit to Dayton; Chicago to Louisville. (Docket 1209) Applicant, a fixed base operator, asks many intermediate points on all routes.

United Air Lines Transport Corp.

This carrier filed four applications, including a route from Cleveland to Montreal, Canada (Docket 1217) for stops at Rockford, Ill. and Dubuque-Waterloo, Iowa (Docket 1214) for stops at Gary, Elkhart, Sandusky, Lorain-Elyria (Docket 1215) and for a route between Cleveland and New York (1216) Details of this carrier's proposed expansion may be found on page 47.

Woodley Airways

Arthur G. Woodley, head of this company located at Anchorage, Alaska, has asked CAB to extend the order for suspension of service at Medfra and Takotna because of unsuitable landing fields. The towns are on its route between terminal points—Anchorage and Flat. (Docket 1189)

Franklin

POWER

FOR OUR FLEDGLING FLIERS

War Training Service, long a user of Franklin engines in hundreds of its primary training planes, has now ordered a substantial quantity of new Franklins for replacement purposes. Going into production by Aircooled Motors Corp. for WTS are the popular Franklin 65 H.P. and 90 H.P. engines of the air cooled, horizontally-opposed, 4-cylinder types.

Thus Franklin aircraft engines once again prove beyond a doubt the dependability, the economy and the long life which have made them the choice of so many private plane owners and school operators.

Today Franklin engines are being produced to power the primary trainers of our ally, Brazil, as well as for our own WTS. In addition, Aircooled Motors Corp. is producing several larger Franklin engines, designed for special wartime applications at the request of the Army Air Forces. When the war ends, a complete new line of Franklin engines will be ready to power the finer planes to come.

AIRCOOLED MOTORS CORP.
SYRACUSE, N. Y.

CAB's Docket Section Busiest Place in Capital These Days

By GERARD B. DOBBEN

SCRIPT WRITERS for radio quiz programs might well spend a profitable day or two in the busy Docket Section of the Civil Aeronautics Board to obtain leads for their $64 questions.

While answering questions, both profound and otherwise, does take up considerable time each day, the Docket Section is engaged more specifically in keeping new and amended air transport route applications properly recorded and indexed and moving along smoothly through the procedural channels which eventually lead to a CAB approval or denial.

In the normal procedure of filing an application, the applicant starts with either C. Edward Leasure, Chief CAB Examiner, or the Docket Section which is under his jurisdiction. In the Docket Section he will first encounter Mrs. Catherine F. Williams, chief of the section, who is a form of human aviation encyclopedia. She has an able aide in F. K. Cogswell, assistant chief of the section.

Mrs. Williams has been in this type of work since 1934 when she was employed in the old Bureau of Airmail in the Interstate Commerce Commission. At that time, N. B. Haley, now treasurer of United Air Lines Corp., was head of the Bureau.

When an air carrier or new applicant files an application with CAB for a new route or an extension to an existing route, the Board's Economic Regulations require that an original and 19 copies of the application shall be filed. The Docket Section assigns a docket number, then circulates most of the extra copies to the members of the Board and to the Board's administrative, examining and technical personnel. Copies also are supplied to the office of Public Counsel.

The original application, which remains in the Docket section, is then classified and indexed, based on the information it contains. A separate index is kept for foreign routes and they in turn are classified again on the basis of the countries which the applicant proposes to serve. Applications for domestic routes are indexed on the basis of the type of service to be rendered, whether it is the conventional type of operation with conventional type of planes or whether it is a Local-Feeder-Pickup type of service. In addition, a separate record is kept for each city and state scheduled to receive service under the various applications that are filed. Another file is made for all applications for routes in Alaska.

Until a few months ago, each applicant, in addition to filing 20 copies of the application with the Board, was required to file a copy with each certificated carrier and all other applicants for air routes. When the influx of new applications began to increase, this procedure promised to become so burdensome to the applicants that the Economic regulations were changed. The Docket Section was then assigned the task of notifying, through a weekly summary, all carriers and applicants of new applications and amended applications filed during the previous week. This change in procedure has increased the work of the Section considerably.

The fact that an application must meet certain requirements laid down in the Board's Economic regulations gives rise to some of the unusual questions which are sometimes asked of Mrs. Williams and her helpers. Prospects for the future growth and development of aviation has so caught the public fancy that persons wholly unacquainted with either the aviation field or departmental procedures have come to Mrs. Williams with a verbal request for an air route and obviously expecting to leave the docket section with the certificate of public convenience and necessity in their possession.

Recently a woman, with baby in her arms, filed for two transcontinental air routes for transport of cargo and express between the west and east coasts and some little time and patience was required in explaining why hearings were necessary before the Board could make a decision regarding the case.

In contrast was the appearance of a Washington high school boy. He too filed an application for an air route. However he did not expect to receive the certificate immediately. To the contrary he was not only aviation minded but aviation wise. He knew it was impossible to buy planes now because of the war effort. Further he knew of the long delays which mark the processing of an application until it reaches the Board for a decision. Because of these facts, he told the Docket Section he was filing his application now in the hopes that he might have the certificate when he finishes an engineering course in college.

Another prospective applicant, who proposed to fly a seaplane 200 miles into the air and then start human-tenanted rockets for Asia, spent the greater portion of three days in the Docket section trying to perfect his application. The application has not yet been filed.

Only recently the Docket Section received the query from a prospective applicant as to the depth of all of the rivers between the East and West coasts because the information was desired in connection with an application for an amphibious service.

"I could not answer this one," Mrs. Williams said "although I could tell him the branch of the government which had the information." Another phoned for information regarding race riots, a third as to the dates when the members of the Board were born. These are but some of the sparkling incidents which help to brighten the arduous and exacting duties which are the daily lot of the Docket Section employes.

There are today 548 applications pending in the docket section. New applications are being received at the rate of 50 to 60 a month. One month saw a new high record of 85 applications. This all adds up to greatly increased work for Docket Section employes and explains why in both CAB and aviation circles this Section is considered the busiest in the Capital.

American Aviation Photo

Pictured above is the staff of workers employed in CAB's busy Docket Section where all applications for new and amended air transport routes are filed. Mrs. Catherine F. Williams, chief of the Section, and her staff are looking at the voluminous Docket 857 which contains the testimony of the Local-Feeder-Pick-up investigation. Reading left to right are: Doris Hardy, Jane Thomas, Mrs. Williams, Florence M. Meredith, F. K. Cogswell, assistant chief, K. White Sonner and Alice R. Winston.

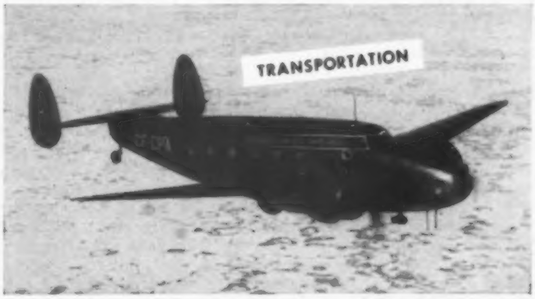
New All-Cargo Venezuelan Airline

Aerovias Venezolanes, S. A. has been organized to operate an all-cargo air service within Venezuela. The new line, to which Pan American Airways will contribute technical advice and in which it will have a minority stock interest, will carry air cargo on a charter basis between points in the interior of Venezuela, as far south as Santa Elena, in the vicinity of diamond fields.

First Things DO Come First!

THE NEWS
UNCONDITIONAL SURRENDER

Today, whatever contributes to victory comes first with all of us . . . and at Canadian Pacific Air Lines nearly everything contributes to victory! 6,000 of our 7,300 employees are directly engaged in the operation of Aircraft Repair Plants or Air Training Schools . . . and 90% of all air traffic handled is connected with the war effort.



C.P.A. planes fly approximately six million miles a year . . . save precious time in transporting military personnel, vital war cargoes and mail. Routes connect with other air and rail lines.

Five Government owned overhaul and repair plants are operated by C.P.A. for the servicing of R.C.A.F. equipment. These establishments provide facilities indispensable to Canada's war effort.

C.P.A. operates, on a non-profit basis, seven Air Training Schools turning out pilots, navigators, observers and bombardiers for the Air Forces of Canada, Great Britain, Australia and New Zealand.

The Atlantic ferry bomber service (now the R.A.F. Transport Command) was pioneered by Canadian Pacific in co-operation with the British Ministry of Aircraft Production. The first flight took place in November, 1940.

IT'S THEIR WAR TOO . . .

Throughout the C.P.A. System women workers are performing a steadily increasing percentage of essential war tasks. These tasks include maintenance of aircraft, wood and metal working, welding, painting and radio operating.

Canadian Pacific AIR LINES

THE WINGS OF THE WORLD'S GREATEST TRAVEL SYSTEM

CAB Calendar

Jan. 6—Prehearing conference in Great Lakes to Florida proceeding, Docket 488 et al, in Room 3237, Post Office Department, 10 a.m.

Jan. 10—Consolidated hearing on applications of Western, Continental, United & TWA involving service between Denver & Los Angeles. (Docket 519 et al). (Tentative).

April 1—Hearing on applications of Mid-Continent & Kansas City Southern Transport Co. for routes between Kansas City & New Orleans. (Tentative) (Docket 651)

March 15—Hearing on applications for routes to Latin America and Caribbean area. (Tentative) (Docket 525 et al).

Braniff Gets Temporary Certificate to Operate Between Texas, Mexico

Braniff Airways, Inc. has been granted a temporary certificate by the Civil Aeronautics Board to engage in air transport between Laredo, Tex., and Nuevo Laredo, Mexico, in the interests of the war effort.

Under the terms of the Board's order, Laredo and Nuevo Laredo will become co-terminals on the southern end of Braniff's Route 50. The hook-up is designed to connect with schedules of Cia Mexicana de Aviacion, S. A. between Nuevo Laredo and Mexico City, and furnish "across-the-river" air transportation.

"The present limited number of aircraft available to the air carriers and the demands for speedy air transportation caused by the war make desirable the temporary establishment of a connecting service at Nuevo Laredo, Mexico," the Board order stated.

Report Record UAL Cargo

Air mail loads as high as 260,000 letters to a plane are being carried by United Air Lines' new coast-to-coast "Cargoliners," it was shown recently in a company report on the first two weeks of the service's operation.

Approximately 160,000 letters are being flown over United's entire transcontinental route by each plane assigned to the service, according to C. P. Graddick, director of United's air cargo department. He said this transcontinental average did not take into consideration letters addressed to intermediate points along the line. As high as 6,500 pounds of air mail have been carried on one plane.

Since Pearl Harbor, Graddick said, air mail has increased two and one-half times and, because of the large movement of people and cargo essential to the war program, the Post Office Department recently announced that considerable air mail had been delayed. The airline official declared that United's new "flying freight cars" are helping materially to ease this situation, providing vitally needed accommodations for steadily increasing air mail and express loads passing between all points along the company's system.

Airline Commentary

We start out this time with an item about stewardesses, God bless 'em (or at least most of 'em) . . . We have here a letter from a reader . . . It says: "Airline stewardesses ain't what they used to be in days of prewar airline service, but I would like to commend for everyone's attention a Miss E. Wilcox, stewardess on American Airlines' Ft. Worth-Chicago run. She's really tops. She doesn't act as though every request made by a passenger is an imposition, or a drudge. Would that all of 'em were on a par with Miss Wilcox!" . . . Miss Wilcox can consider herself commended . . . And as long as somebody brought the subject up, we'd like to do a little commending ourselves . . . Last month we flew on TWA's trip 20 from Kansas City to Washington, leaving Kansas City at 12:20 arriving Washington 8:37 P.M. . . . As soon as we left KC the stewardess started serving lunch, rushing to get the people fed who were getting off at St. Louis . . . No sooner was lunch out of the way, what with serving passengers who boarded en route, than it was time to serve dinner . . . Upshot of it was that between KC and WA she must have served at least 40 meals, and in addition found time to be cheerful and tend to passengers' other needs . . . Her name was Miss F. A. Drake, and our hat is off to her as a very capable little lady . . . (Note to TWA: Better not break any new stewardesses in on trip 20 . . . After serving 40 meals, they're liable to decide that aviation isn't here to stay) . . .

●

While we're on the subject of passenger service we'd like to make the suggestion that when it's necessary to remove non-priority passengers a little more tact be used than we've witnessed in the past . . . We didn't want to go off half-cocked on this, so we checked first with a couple of airline traffic men and they agreed that there was plenty of room for improvement . . . Our point is that non-priority passengers don't mind being removed for priorities if it's done in a nice way . . . But it isn't always done as well as it could be . . . We were on a plane recently and when it came to a stop before the airport administration building, a woman ramp agent opened the door and said to the stewardess—in a voice that could have been heard in the pilot's compartment—"Please tell all the non-priorities that they're being removed here" . . . And she sounded like she was actually enjoying her work . . . (This isn't sour grapes, either, because we weren't thrown off—we were getting off there anyway) . . . Inexperienced personnel are responsible for a great deal of this, we realize . . . Maybe renewed efforts should be made to indoctrinate them . . .

●

We were amused and impressed by a statement made recently by CAB Chairman L. Welch Pogue in a speech . . . Speaking about how the airplane has vanished isolation, he said: "If anybody can find a real backwoods in this country now, I would like to know where it is so that I can go there and take a rest" . . . Pogue is one of the busiest men in Washington . . .He drives himself unmercifully from early morning until far into the night . . . There was probably more behind his plaintive statement than met the eye . . .

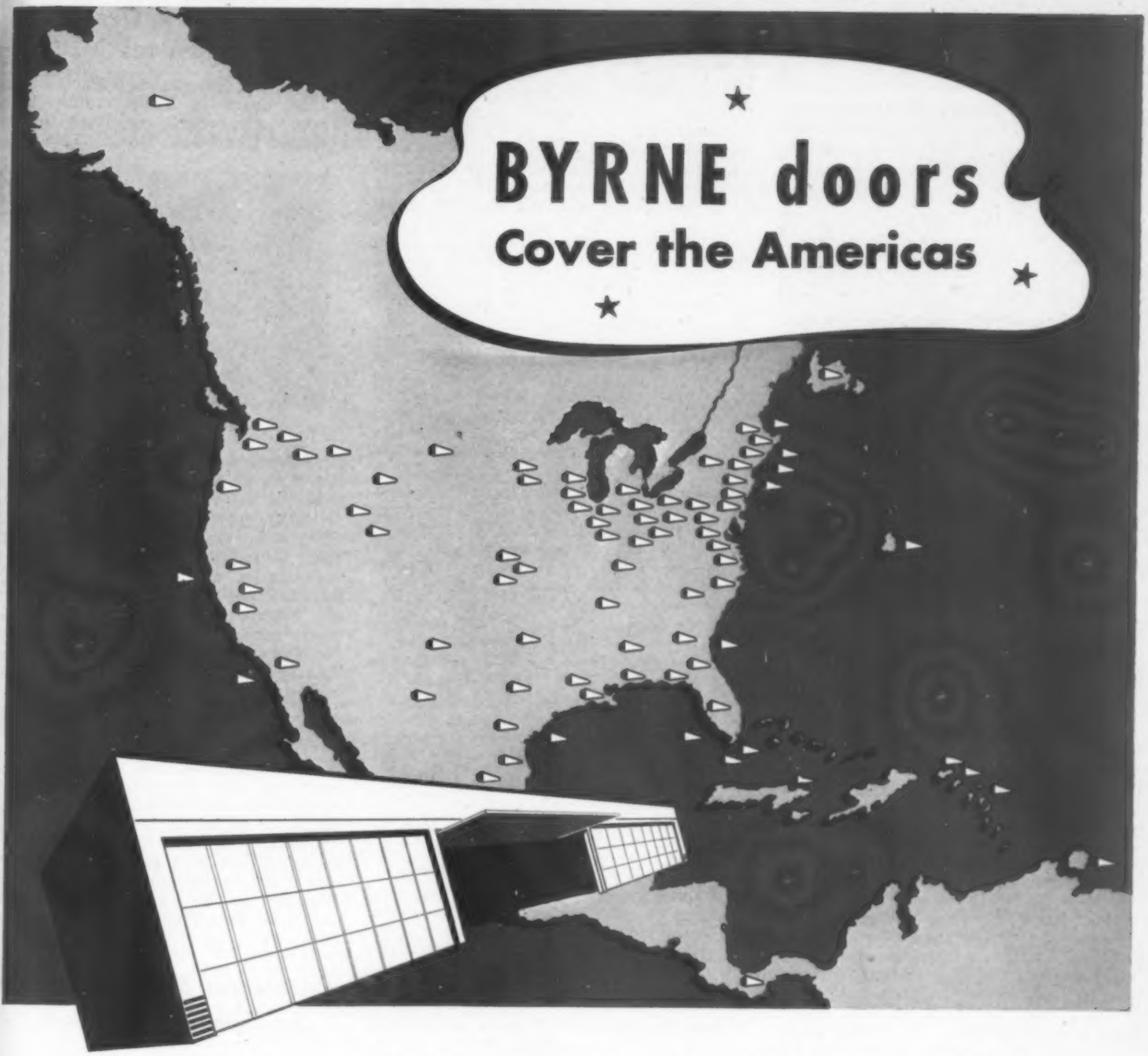
●

People are forever leaving things on airplanes . . . Jim Cobb, Delta's director of advertising and publicity, says that the most unusual lost and found item handled by Delta recently was a pair of crutches . . . "The owner of the crutches boarded with them at Augusta, and traveled to Atlanta," Cobb relates . . . "He was not observed by any of our personnel when deplaning, but a little while later both his crutches were found left on the ship. Isn't that a wonderful testimonial for travel by air? Incidentally, this passenger never did contact us about his lost articles, but after a few weeks we finally ran him down and gave him back his crutches. Another unusual item was a set of false teeth which was located beneath the seat on one of our ships. The owner was quick to reclaim these, however, explaining that although he often carried them in his pocket, he did use them when eating. The teeth were removed from the flight a few hundred miles away and returned to the passenger" . . . What next?

●

Off the record, fellows, the Post Office Dept. is really enthusiastic about the all-cargo trips now being flown by some airlines . . . Roy Martin, PO superintendent of air mail, told us the other day: "They've really been a life-saver" . . . He then fished out some trip reports on United Air Lines' transcontinental cargo flights . . . One report, which we saw, but had difficulty believing, showed that a UAL trip carried 5,782 lbs. of air mail into San Francisco recently . . . This was all mail, mind you—no express . . . We didn't see one report that was much below 4,000 lbs. . . . Martin says that the cargo trips can be right profitable for the airlines, too . . . For example, he points out, 5,000 lbs. of mail at .3 mill per pound-mile mail pay, is $1.50 per mile . . . 21 passengers at 5 cents a mile would be $1.05 per mile . . .

—ERIC BRAMLEY



From the sunny shores of Trinidad to the bleak tundra of Alaska, BYRNE doors are doing a big war job . . . contributing mightily to the speedy housing and servicing of ships of the air. The wide variety of successful installations in every kind of climate is tangible evidence of the ready adaptability of basic BYRNE door design to openings of every type and size.

* *

You are invited to bring your door problems to BYRNE engineers . . . the most widely consulted civilian authorities on hangar doors.

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Women in Air Transport

(This is the sixth of a series of articles on women who are doing an outstanding but little publicized job for the U. S. airlines.)

FEW WOMEN have had a longer or more interesting career in aviation than has Marguerite Shepherd.

For 20 years and two months "Sheppy" has been secretary to Capt. Eddie Rickenbacker, president and general manager of Eastern Air Lines.

Back when gasoline engines were frightening the horse and buggy generation, she started out in Hamilton, Ontario, where she attended high school and received a piano teacher's certificate. Music, however, lost its beauty in the hands of uninspired ten-year-olds and Sheppy turned to business, completing a course at Canada Business College, beginning work as a secretary and later becoming a public stenographer.

Before long, however, she decided to leave Canada for the U. S., where women were given more responsibility. In Detroit she answered an ad for an executive secretary that specified "automobile experience essential," and was hired for a job with Capt. Rickenbacker, at that time vice president and director of sales for Rickenbacker Motor Co. Interestingly enough, it was a personnel man who selected her. Despite her inexperience with the motor business, she qualified.

When Capt. Rickenbacker returned from abroad, he found a new secretary. Subsequent years confirmed his approval of the choice in absentia. This was 1923. Shortly, Capt. Rickenbacker transferred to Cadillac Motor Car Co., then to General Aviation Manufacturing Corp., then to the vice presidency of American Airways, then to North American Aviation as vice president and in 1935, to its operating division, Eastern Air Lines, as general manager. With him went Miss Shepherd.

When in 1938 Capt. Rickenbacker and his associates formed the new corporation, Eastern Air Lines, there was no question of secretary. Next to the president's comfortable office at Rockefeller Center, New York, is a smaller room where Monday through Saturday—and frequently Sunday—many of the problems that beset the Captain are tackled with the efficient thinking of the woman who has stood by through the evolution of his career.

Every now and then Sheppy has a holiday. In prewar years she looked forward to the special annual flights of newspapermen and writers bound for the Memorial Day races at the Indianapolis Speedway. Before priorities there was an airline vacation to San Francisco—a sharp contrast to her first brief flight back in 1924 in William B. Stout's first all-metal passenger plane.

Organization-minded, she is a member of the Women's Traffic Club of Greater New York, the Canadian Women's Club of N. Y. and the Seraphic Secretaries of America, the latter comprised of secretaries of distinguished men throughout the country.

There were months after Rickenbacker's much-publicized accident at Atlanta when Sheppy lived near the hospital helping the Captain during his convalescence. And it was Sheppy who comforted Mrs. Rickenbacker when the Captain was lost on the South Pacific.

Pogue Congratulates Iowans For Building Airport Close To Town; Calls Speed 'Trump'

Accessibility of the airport and its probable effect on travel by air was discussed by L. Welch Pogue, chairman of the Civil Aeronautics Board, in his speech at the dedication of the Burlington, Iowa, airport last month.

Pogue, back in his home state for two speeches congratulated the public spirited citizens of Burlington for having built the airport within a relatively short distance of the city.

"Most large airports are many miles from the heart of the nearby city", Pogue declared. "Much is desired in the future in solving this fault. Speed is one of aviation's trump cards. To have that asset dissipated by a long drive to and from the airport in a car through devious streets and in the battle with traffic, is like throwing away victory after it is won. In many instances as much as an hour moans its precious minutes away getting in and out of town in that car—the most dangerous part, I sometimes maintain, of the whole trip, including the air part. To remedy this defect and eliminate the time lag between the airport and the city's heart is one of the ranking problems of our planners. Here again, I am glad to say, you win. Your airport is only 1½ miles from Burlington. It is readily accessible and convenient to your city. A trip by air to Burlington means a trip by air and not an end-on profit minus loss—a saving of time by air minus a loss of it by a long surface trip. Congratulations again".

T-C Graduates Large Class

Trans-Canada Air Lines' personnel training school recently graduated a class of 50, the largest class in the history of the company's training program. Thirty-eight of the graduates were women. The group has been assigned to jobs as follows: 17 as radio operators, 6 reservation agents, 9 teletype operators, 12 passenger agents, and 6 traffic and counter clerks.

TWA's Wilson Decorated By General MacArthur

Brig. Gen. Thomas B. Wilson, chairman of the board of Trans-continental and Western Air, recently received the Legion of Merit from Gen. Douglas MacArthur, it was reported last fortnight. Wilson is on leave as chief of transportation for the Allied Forces in the Southwest Pacific Area.

Wilson

The citation read: "For exceptionally meritorious conduct in the performance of outstanding services in the Southwest Pacific area from April 17, 1942 to October 19, 1943. As Chief of Transportation successively of the U. S. Army Forces in Australia, U. S. Army Forces of Supply and U. S. Army Forces in the Far East, Brig. Gen. Wilson was charged with planning organization and development of transportation services for the U. S. forces in the Southwest Pacific Area. An inadequate amount of coastal shipping, railroads of small capacity and broken gauges, shortages of all kinds of labor and facilities created difficult problems for the Chief of Transportation. With great foresight and inexhaustable energy, Brig. Gen. Wilson directed the expansion of port installations, the procurement and operation of a considerable fleet of seagoing and coastal vessels and the coordination of all available means of transport by land, water and air. His notable accomplishment in a service so essential to this theater constituted an invaluable contribution to the success of operations in the Southwest Pacific area."

Patterson Hails Progress In Eliminating Subsidies

The air transportation industry has achieved marked progress in eliminating subsidies, W. A. Patterson, president of United Air Lines, told members of the Des Moines Chamber of Commerce last month.

"United Air Lines today is paid 60 cents per ton-mile for carrying air mail as contrasted with a revenue of $2 per ton-mile which the Post Office department realizes from the sale of air mail stamps," he declared. "Most of the other airlines are in much the same position. It has taken us 15 years to get away from subsidy. We certainly do not wish to return to it."

NWA Gives 150-Hr. Test

A large modification project operated by Northwest Airlines at Vandalia, Ohio, airport is now turning out bombers and fighting planes for direct global combat duty. AAF specially trained pilots take the planes from factory to field where airworthiness tests are completed in 150 flying hours. The Materiel Command engineering section studies the results and recommends modifications which are adopted at other U. S. test centers.

Airlines Dependent On Freight Business For Economy-Dickins

If Canada is to be in the forefront of leading nations, "she will have to use to the utmost the air services of both the privately and publicly owned transportation systems," C. H. "Punch" Dickins, vice-president and general manager of Canadian Pacific Air Lines declared in a recent address before the Canadian Railway Club in Montreal.

Forecasting the future, he said: "In the field of passenger traffic it would seem that a considerable volume of the long haul traffic will naturally be diverted to air carriers. It is also a fact that by the very nature of the time saving, the airplane itself creates new traffic which would never have gone by rail at all. The expansion of local air services throughout the country will also promote new air traffic. Aerial tourist routes are also on the list for postwar operation."

Dickins said it will be "a considerable time" before much more than certain types of high class express can be tapped on the basis of present air schedules and rates, but said he believes that if the airline business is to develop into a major transportation medium it must follow the pattern of surface transport in finally maintaing its economic existence on the basis of being primarily a freight mover.

He pointed out that with airlines now, only about 5% of the total revenue is derived from freight and 90% from passengers, the reverse of the rail carriers. "This almost untapped potential air freight may finally emerge as the record maker for the air lines," he added.

Dickins cited 1942 Canadian traffic statistics as indicating "the opportunity for the building of a sound and widely extended air transport service without jeopardizing the main sources of rail revenue. Generally speaking these figures both discount over-exaggerated claims of the air ruining the railways and likewise support the claims for a reasoned development of air traffic." He said the Canadian Pacific railroad and Canadian National railroad carried 126,000,000 tons of freight, 44,000,000 passengers and 250,000,000 pounds of mail in 1942. During the same period their airlines, Trans Canada and Canadian Pacific, carried 5,000 tons of freight, 165,000 passengers and 4,000,000 pounds of mail.

New U. S.-Mexico-Cuba Schedules

Compania Mexicana de Aviacion, Mexican affiliate of Pan American Airways, announces that on the route between Mexico City, Monterrey, and Nuevo Laredo, at the Texas border, three flights daily have been inaugurated between the Federal District and Monterrey, the industrial capital of Mexico. Between Mexico City and Laredo, Tex., where airline connections are made to all parts of the United States, a daily service is in effect. From Mexico City to Havana and Miami, service has been increased to four times each week. One flight is made by PAA crews and Clippers, and three by Compania Mexicana de Aviacion.

BRITISH TYPE ELECTRICAL CONNECTORS

● Amphenol produces British Type Electrical Connectors to specifications developed by the British Air Ministry. These connectors are used to facilitate the production and installation of certain types of British aircraft, marine, and radio apparatus made in America.

Threads are accurately machined to British Whitworth Standards. The same careful workmanship and engineering go into British Type Connectors that is representative of the complete Amphenol line.

BRITISH TYPE:

PLUGS AND RECEPTACLES for electrical circuits.

PLUGS AND SOCKETS for coaxial cables.

FITTINGS AND END CAPS for electrical connectors.

Inspecting special wiring assembly. Every Amphenol-made connector and cable assembly undergoes rigid test before leaving the factory. Efficient performance assured.

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Send today for illustrated data sheets on British Type Electrical Connectors. Complete specifications—10-page listing of items, parts, and assembly instructions.

CAB Orders Affecting Air Carriers

ORDER No. 2519: Prescribed Amendment No. 6 to the Uniform System of Accounts for Domestic Air Carriers by amending it in its entirety and substituting therefor a new printed manual.

ORDER No. 2520: Authorized inauguration of service by Eastern Air Lines, Inc. so as to serve Raleigh, North Carolina on route No. 5 and Columbia, South Carolina on route No. 6.

ORDER No. 2521, DOCKET 779: Withheld from public disclosure certain testimony and exhibits re alteration, amendment and modification of the certificate of public convenience and necessity of Pan American-Grace Airways, Inc.

ORDER No. 2534: Amended certificate of public convenience and necessity issued to Braniff Airways, Inc. so as to include Moline, Ill. as an intermediate point between Chicago, Ill. and Burlington, Iowa; denied motions of Mid-Continent Airlines, Inc., and Transcontinental & Western Air, Inc., to defer decision in this case. (Opinion and Order)

ORDER No. 2539: Approved Agreement (Contract CAB No. 255) filed by and between United Air Lines Transport Corporation and Mid-Continent Airlines, Inc. relating to the furnishing of certain services, facilities, and personnel, by United Air Lines Transport Corp. to Mid-Continent Airlines, Inc.

ORDER No. 2546: Approved Agreement (CAB No. 82 A, amending CAB No. 82) filed by and between United Air Lines Transport Corporation and Railway Express Agency, Inc. relating to air express service.

ORDER No. 2547: Authorized Mid-Continent Airlines, Inc., to temporarily suspend service at St. Joseph, Missouri.

ORDER No. 2551, DOCKET 1143 ET AL: Denied petitions of Chicago & Southern Air Lines, Inc., Braniff Airways, Inc. and TWA for reconsideration of consolidation order; and denied request for oral argument by TWA.

ORDER No. 2552: Granted air transport carriers permission to transfer operations from Albany airport to Schenectady County Airport because of snow conditions.

ORDER No. 2555: Granted American Airlines, Inc., temporary permission to transport persons, property and mail to and from Joplin, Mo. on its route No. 30 as being in the interests of the National Defense.

ORDER No. 2556: Granted Mid-Continent Airlines, Inc. authority to transport persons, property and mail from Joplin, Mo. on its route No. 26 as being in the interests of the National Defense.

ORDER No. 2558: Consolidated for hearing portions of applications of American, Eastern, National, Delta, PCA, State, Air Transport, Virginia Central, Hamish Turner and Carolina Scenic Coach air lines involving proposed service in an area between Pittsburgh and Great Lakes on the north and Jacksonville, Fla. on the south and created eight new applications bearing Docket Nos. 1199 to 1206 inclusive representing requests for routes severed from existing applications under the consolidation order.

American Airlines Reveals 9 Month's Profit Totals $2,046,897; $3.28 a share

American Airlines, Inc. made a profit of $2,046,897.59 for the nine months ended September 30, after provision for Federal income and excess profits taxes. This is equivalent to $3.28 per share on the 574,848 shares of common stock outstanding after provision for preferred dividends, and compares with a net profit of $2,407,479.77 for the same period of 1942, after provision for excess profits taxes in 1942. Before taxes, the company's net profit was $7,256,897.59 for the nine months ended September 30, as compared to a net profit of $4,254,579.77 before taxes for the same period of 1942.

The company showed increases in all three departments of its business, with the greatest improvement in mail and express. A total of 327,309,307 revenue passenger miles were flown in the first nine months of 1943 as compared with 309,745,343 in 1942. Mail pound miles were 11,621,025,676 in 1943 as compared to 6,175,258,313 in 1942, and in air express the company flew 7,212,695,308 pound miles as compared to 4,103,610,999 pound miles in 1942.

Passenger revenue for this period was $17,807,710.33, 10.7% more than for the same period of 1942. Mail revenue was up 45.3% and express revenue increased 76.0% over the same period last year.

Nacional Reopens Line

Linea Aerea Nacional, Chile has reopened service from Santiago to Concepcion with an intermediate stop at Cauquenes, making flights Wednesdays and Saturdays in a Lockheed Electra.

Investment Firm's Booklet Sees Expansion of Airlines

The development of United States air transportation from "the incubator stage" to one of the nation's foremost industries, and its outlook for the future, are reviewed in the third edition of "Airlines", published last fortnight by the investment firm of Merrill Lynch, Pierce, Fenner and Beane of New York.

The 36-page illustrated booklet presents analyses of 18 of the leading American airlines. It explains how domectic airline routes have been increased from 40,000 miles to hundreds of thousands of miles over Arctic ice, African sand, and storm-swept oceans. It points to the "excellent" job being done on the fighting and home fronts, and discusses problems of competition and future financing.

In discussing the possibility of an air-borne world in the future, the review states that U.S. airline operators "have not the slightest doubt as to their own future."

"To a man, their peacetime cry is one: expansion—here, there, and everywhere," it says.

UAL-CPAL Agreement

An agreement has been completed between United Air Lines and Canadian Pacific Air Lines allowing air passengers to purchase a ticket from Canadian Pacific for air transportation to any city in the United States served by an airline. Tickets also may be purchsed from United Air Lines agents for passage over Canadian Pacific's routes.

Free Enterprise in Internat'l Aviation Advocated by Damon

The air transport industry has certain definite contributions it can make for human betterment and "this can be done if our government is willing to substitute cooperation for paternalism and allow free enterprise in our industry to prosper," Ralph S. Damon, vice president and general manager of American Airlines, said Dec. 1.

Speaking in New York at the national convention of the American Society of Mechanical Engineers, Damon urged that "international collaboration should be initiated now, particularly in regards to the postwar aviation situation. If we adopt a policy of waiting it can only contribute to the confusion that is certain to follow the victory, unless understanding in regard to world-wide air routes is now established. I hope this can be done because if the United Nations cannot collaborate in the peace as they have in the war then I am fearful we have done nothing but lay the foundation for World War III."

Aviation's contribution to our civilization, he said, "will continue to the fullest extent provided that constructive and sympathetic public and governmental consideration is given now to the future of air transportation. But unless this consideration is given by our government in collaboration with the other United Nations soon the inaction may prove detrimental to what we hope to establish as the air future.

"My plea for international collaboration on air transport's future is based on a desire to prohibit a repetition of past mistakes when air transport monopolies were allowed to grow on a nationalized basis. It is of the highest importance to the air transport industry and in turn to our country that we do not permit our future air policy to be tinged with distrust or fear of nationalized foreign competition. This distrust and fear can be eliminated now if there is international collaboration. This collaboration must be instituted promptly and not later when many of the nations might be reluctant to discard any plans they have formulated independently."

Discussing air power, he said that "history will show that air power was always the determining force in this war."

Bolivian Airline Honored

Lloyd Aereo Boliviano, Bolivian airline, has been given the International Aviation Safety Award of the Inter-American Safety Council for its perfect safety record and outstanding performance in 1942. Lloyd Aereo Boliviano is one of the oldest airlines in Latin America, having been organized in 1925.

New Colonial Record

Colonial Airlines claims to have set a new non-stop speed record between Montreal and New York Nov. 25 when one of its planes made the trip in one-hour, [illegible] minutes. The scheduled time for the trip, which was made at an average speed of 227 mph, is two hours, 10 minutes.

BIGTOWN
HOME ACRES
FISH POINT
FARMDALE
MOUNTAIN PASS AIRLINE
FOREST LAKE
MINEVILLE

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ON SHORT HOP BUSINESS

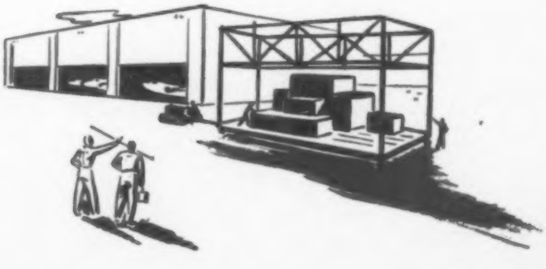
MOUNTAIN PASS AIRLINE
(First Class Mail Route)

Read up	Cargo & Pass.	Read down
6:20†	Ar. Bigtown	Lv. 7:20*
6:01	Home Acres	7:39
5:48	Fish Point	7:52
5:30	Farmdale	8:10
5:05	Forest Lodge	8:35
4:39	Mineville	9:01
4:09	Trout Lake	9:31
3:30	Wilderness Jc.	10:10

*Connection from N. Y. flight 107.
†Connects with Chicago flight 49.

Somewhere along this mythical, short hop airline is the home town of everyone in America. After Victory the "Mountain Pass Airline" and a hundred other feeder sky routes will shuttle the mail and men and materials back and forth in the air commerce of the nation. This is more than just wishful thinking. Fletcher Aviation Corporation, manufacturers of FBT2 Trainers, and a score of allied aviation products for war, will help make many of the "Mountain Pass" airlines possible. Obviously this important Fletcher development is under cover right now. But it is coming—another step by Fletcher that is "putting wings on the world."

Fletcher Aviation Corp.
PASADENA CALIFORNIA



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AUTO-LITE B-8 RELAY

ENGINEERING DATA FOR B-8 RELAY

Auto-Lite Type No. WSL-4001
Army Specification No. 32424A
Army Type — B-8 Current Relay (Starter Circuit)
Net Weight—1.25 pounds
Voltage—24 Volts DC
Current Rating — 1000 Amperes — Make, 250 Amperes Break
Relay picks up and seals at 7.5 Volts
Current Draw — At 24 Volts (cold) 3.8 Amperes
Vibration Test—Withstands up to 55 Cycles per second at 1/32" amplitude (1/16" total excursion)
Acceleration Test—Acceleration force of 10 G's does not cause malfunctioning
Altitude Test — Suitable from sea level up to above 35,000 feet
Ambient Temperature Range — 65°F. to + 160°F.

Again Auto-Lite proves it can lower cost and improve quality by applying precision engineering and mass production methods to aircraft parts manufacture.

This time the product is a 1000 ampere—24 volt intermittent duty relay suitable for use in all retracting motors, hydraulic pump motors, starters, propeller feathering installations and any other circuit of high amperage in which the duty is intermittent.

This relay, made the Auto-Lite way, cuts weight from the 2.35 pound specification to 1.25—more than a full pound! Contact life outperforms test requirements as much as 300 per cent! Performance range covers altitudes from sea level to over 35,000 feet and temperatures from *minus* 65 degrees F. to *plus* 160 degrees F.

Added to all this is the usual sharp saving in cost which so often follows when Auto-Lite's advanced thinking, engineering and manufacturing methods are combined with large scale production.

The relay offers special assurance of quality and reliability as every unit passes rigid U. S. Government inspection.

We have extra production capacity on these relays available to you now on proper priorities. Full information can be obtained by writing to

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Ryan Urges Regulation

Oswald Ryan, member of the Civil Aeronautics Board, believes the regulation of aviation should be uniform throughout the United States—and this means, he stated, placing control in the hands of a single national regulatory agency.

"We do not want to see flying in this country made less attractive and more costly by unnecessary regulations—by duplicate regulations, or by conflicting regulations leading to endless controversy and ultimate chaos," he said in a recent interview.

Ryan said that though there be a single Federal regulatory law, there is no reason why the States cannot assist in its enforcement.

Aviation Not Radically Altered by War—Monro

The war has not produced any radical changes in aviation. Improvements rather than innovations have been incorporated in military planes, C. Bedell Monro, president of Pennsylvania-Central Airlines, asserted in an address in Pittsburgh last month. He addressed the annual convention of the National Association of Commercial Organization Secretaries.

"Private plane possibilities have been grossly exaggerated both as to numbers and use," said Monro. "and they will not be bought at the crossroads store at any time in the near future, at any rate. The original cost of a private plane is high, and the operating cost for operations covering 100 hours a year will total $1,020 at a minimum. Traffic control problems will operate against sky-darkening clouds of private planes."

In Monro's opinion, the helicopter is not "around the corner." There are "staggering" engineering problems to be solved, he said.

He predicted that five years after the war every community in the country will be within an hour's drive from a point of passenger air service.

"Most communities of 10,000 population and up will have passenger service and smaller communities will have direct mail and cargo service through pickup, or, possibly, helicopter," he added.

PAA Services Improved

The five-hour daily northbound flight of Compania Mexicana de Aviacion, Mexican affiliate of Pan American Airways, was advanced 30 minutes November 1, permitting international passengers to make connections northbound by the afternoon Braniff plane leaving Laredo, Tex., just across the border. Arrival time on Sundays of planes from the Canal Zone and Central America was on the same date advanced two hours and five minutes, insuring a uniform arrival time in the United States of planes flying this direct service, now made five times weekly, both northbound and southbound.

Tomorrow's air transportation ...

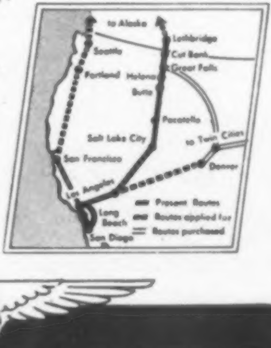
The WORLD will be a WAREHOUSE

...for your favorite shop

Shopping will be a refreshing new experience in tomorrow's Air Age. For, in addition to shelves stacked with a popular choice of merchandise, your retailer may also offer a tremendous variety of sample items for your selection—amazing new products from every corner of the earth.

Your order for these would be rushed out by air mail, and the following day, be delivered by swift cargo plane . . . whether a dress from New York, a folding boat from Chicago, or fresh caviar from the Volga. Such conveniences Tomorrow will be one of the many compensations for doing with less Today.

AFTER VICTORY, Western Air Lines' 17 years of air transport pioneering plus Today's lessons gained in flying cargo millions of miles for the Army Air Forces, will help to make such air transportation a part of your everyday life.



WESTERN AIR LINES

America's Pioneer Airline

General Traffic Offices: 510 West 6th Street, Los Angeles 14, California

Hawaiian Airlines' Mail Pay Reduced to 0.3 Mill

DURING THE PAST few weeks, another air carrier—the Hawaiian Airlines, Ltd.—has been added to the growing list of companies which have had their airmail pay reduced to 0.3 mill per pound mile by the Civil Aeronautics Board.

This rate placed the company in the category of those carriers who the Board feels now realize a financial return which will enable them to operate without federal subsidy previously allowed to meet deficiencies in revenues relating to commercial operations.

The specific order relating to Hawaiian Airlines was significant in the fact that it was the first time that Board Member Harllee Branch had concurred in the 0.3 mill per pound rate. In the past, Branch had disagreed with the majority of the Board, contending that the 0.3 mill per pound mile rate still permitted the carriers to earn too great a return on their investments.

In its opinion, the Board found that Hawaiian Airlines will operate in the forseeable future at a profit of $556,035 per annum, or 55.97 cents per revenue mile, before mail pay and Federal income taxes. This estimated profit amounts to a return of 67.69% before Federal taxes on the adjusted investment as of Sept. 30, 1942.

"Thus, it is apparent that the fixing by us of a fair and reasonable rate of mail compensation does not require the allowance in the mail rate of amounts heretofore frequently necessary in mail rate cases to permit the carrier to cover deficiencies in revenues in its commercial operations," the Board opinion stated.

In his separate opinion, Branch held:

"According to the estimates of future operations under 0.3 mill per pound mile rate, this carrier will earn after Federal income taxes at 40 per cent a net profit of 13.42 percent on that portion of its investment allocated to the mail service; and from combined commercial and mail services it will realize a net overall profit of 41.61 per cent after Federal income taxes at 40 per cent.

"In my dissent in the Pennsylvania-Central rate case, I stated that a fair and reasonable profit from the mail service rendered the Government would be, in my opinion, a net return of 10 per cent on the carrier's investment devoted to the mail service. Recognizing, however, not only that periodic forecasts of operating results are subject to vicissitude and that the available method of apportionment of both costs and investment among the various transportation services of the carrier are neither perfected nor tested, it seems to me an equitable policy for the Board to make provision in our estimates for a 15 per cent net return on the investment apportioned to the mail service in order that the carrier will be reasonably assured of receiving at least a 10 per cent net return on this investment. Once, however, provision has been made for reimbursing the carrier's costs in performing the mail service and a 15 per cent net profit has been allowed in order to reasonably assure the achievement of a 10 per cent net profit, the rate of mail compensation should be fixed to yield no more than this amount. The provision of an additional five per cent net return on investment does not purport, of course, to make provision in advance for substantial or radical changes which may take place in a carrier's operating picture. Should such a substantial or radical change occur, it would be necessary for the Board, after review of the changed conditions, to issue a new mail rate based on a wholly new set of forecasts.

"It seems to me that this policy of determining a service rate is a liberal one which is fair and equitable both to the public and the individual carrier. For the carrier it provides reimbursement for all costs incurred in the transportation of mail and in addition a liberal profit. For the public the policy is a definite protection by providing an objective and determinate yardstick assuring that the amount of compensation paid by the Government for the transportation of air mail is not excessive.

"Bearing in mind the above-mentioned considerations, a mail pay rate of 0.3 mill per pound mile, which it is estimated will produce a profit of 13.42 per cent on this carrier's investment in its mail services, would seem to be a fair and reasonable service mail rate."

Canadian Air Traffic Up

The transportation and public utilities branch of the Canadian Bureau of Statistics reports that revenue passengers carried by Canadian aircraft during July increased to 30,889. The total was 20,162 in July, 1942, and 28,523 in June of this year, the report stated. Freight carried increased from 973,351 lbs. in June to 1,023,424 lbs., but was below July, 1942, traffic, which totaled 1,119,721 lbs. The report revealed that mail continued to increase, amounting to 612,072 lbs. as compared with 595,070 lbs. in June and 378,293 lbs. in July last year.

Attend Canadian Pacific's 1st St. Lawrence Meeting

When the St. Lawrence division of Canadian Pacific Air Lines held its first district traffic conference in Montreal last month, traffic representatives from stations from Montreal as far east as Seven Islands attended. From left to right, standing in back row are: Marc Fortier, Quebec City; J. L. Black, Arvida; J. C. Foley, Quebec Airport; Miss E. Davis, Montreal; E. Maynard, Baie Comeau; Mrs. C. Nutter, Montreal; F. Duquet, Saguenay Airport; Miss J. Gobeil, Montreal; G. Lamont, Montreal. Seated at the head table are: C. G. Nickels, Rimouski; R. Bamford, Montreal; C. H. Dickins, Vice-President and General Manager of CPA, Montreal; L. B. Unwin, President of CPA, Montreal; E. L. Smith, Montreal; C. W. Budd, Montreal; R. McQuattie, Montreal. Seated to the left of the table are: H. R. Cummings, Rimouski; G. A. Dorion, Montreal; R. Stamp, Montreal; Miss C. E. Connon, Toronto; G. F. Lloyd, Montreal. To the right of the table are: Miss J. M. Mills, Montreal; G. Senn, Montreal; Mrs. F. Booth, Montreal; E. Hill, Montreal; Miss J. MacDonald, Montreal.

EXECUTIVE
CAPTAIN
RESERVATIONS CLERK
RADIO OPERATOR
MECHANIC
RECEPTIONIST
TRANSPORTATION AGENT
AIR HOSTESS

It's Still "Friendly Transportation"

★ In a 1939 message to employees, T. E. Braniff, president of Braniff Airways, said: . . . "It is the natural friendliness of the Southwest, an outcropping of the heritage from our pioneer fathers, the wish to be a good host, which has caused our guests to comment so favorably through the years. It has led us to the adoption of a phrase, coined by a passenger, who complimented us on our 'Friendly Transportation'."

★ War is a grim business . . . but we of the airlines can't help feeling that human relations are even more important today because of it . . . that a smile helps lighten the load for wartime travelers. That's why passengers Southwest with Braniff still call it "Friendly Transportation."

BRANIFF Airways

Chicago, Burlington, Kansas City, Wichita, Ponca City, Oklahoma City, Dallas, Ft. Worth, Houston, Galveston, Amarillo, Wichita Falls, Waco, Austin, San Antonio, Laredo, Corpus Christi, Brownsville, Denver, Pueblo, Colorado Springs

American Airlines Traffic School Graduates 400 Agents Yearly

AMERICAN AIRLINES' Traffic School, now eight years old, graduates approximately 400 well-trained agents a year for reservations and ticket offices all over the airline's transcontinental system. Each class of 25 young men and women studies for five weeks in classrooms in American's general offices in New York. During that time students receive comprehensive drill work in scheduling, maps, tariffs, as well as in the rather complicated reservations and ticket office procedures.

The course includes thorough instruction in all the 18 different types of reference material used in reservations offices. Students are also required to observe experienced agents on the job and to practice handling passenger calls under the supervision of either an instructor or an experienced agent. Ticketing and baggage handling are surveyed, and trainees are introduced to each phase of American's large organization by special lectures given by department heads.

The school is staffed by five instructors headed by F. de Wolfe Sanger, who has supervised agent training for the past two years. Sanger, like his assistants, is a former agent himself. He maintains that no one could teach airline procedure successfully without having first-hand experience as background.

Asked what requirements are necessary for the acceptance of an applicant for a reservation position, Sanger said he looks for a combination of salesmanship ability and practicability in people who have had at least two years of college study and some business experience. A good agent must be, above all, accurate, for a mistake in handling a reservation might lead to the serious inconvenience of a passenger. Tactfulness is a desirable factor, and a pleasant speaking voice is a valuable asset in dealing with the public, he said.

Practice is the by-word of AA Traffic School training, and as procedures gradually take shape in the minds of students, each trainee begins to handle a few reservations calls a day. Examinations are said to be as stiff as any given in universities, insuring the ability of the trainee who passes them to take over ably when he is assigned to his post.

Why all this fuss about selling an airplane ticket? American answers: "Because a reservations clerk not only sells space on a Flagship, but also gives good will with the ticket. To do this successfully, he must be prepared to answer almost any question about the activities of American, and particularly on Flagship equipment, operating policies, alternate routings, train and bus schedules, priorities—everything, in fact, to assist a prospective passenger."

Staff of AA's Traffic School consists of, left to right—Robert Josephson, Helena Arnow, Wolfe Sanger, director; Rita Mary O'Brien, secretary; Joan Murdock, and Blossom Rogers.

Students simulate a reservations call by means of an actual telephone conversation and a blackboard reproduction of a passenger card.

Panagra Service '50% Better'

A 50% increase in service has been effected on Pan American-Grace Airways' "transcontinental" route as a result of the placing in service of the third of three Douglas DC-3A aircraft, recently allotted to the airline, the company announces.

Hawaiian Airlines Plans Expansion of Facilities

Hawaiian Airlines announces an expansion program in its operations between the various islands in the Hawaiian group. An expenditure of approximately $400,000, exclusive of any new aircraft requirements in the future, will provide the following:

1. New passenger and freight stations and facilities at all ports except at Honolulu, where the Territory of Hawaii will erect a terminal, and space will be rented for the airline's requirements.
2. New radio ground station equipment and installations. The purchase of new Wilcox Radio equipment has been made and the installation should be completed in the course of several months.
3. Increased hangar areas and facilities for personnel requirements at John Rogers Airport.
4. A small nose hangar at Hilo.

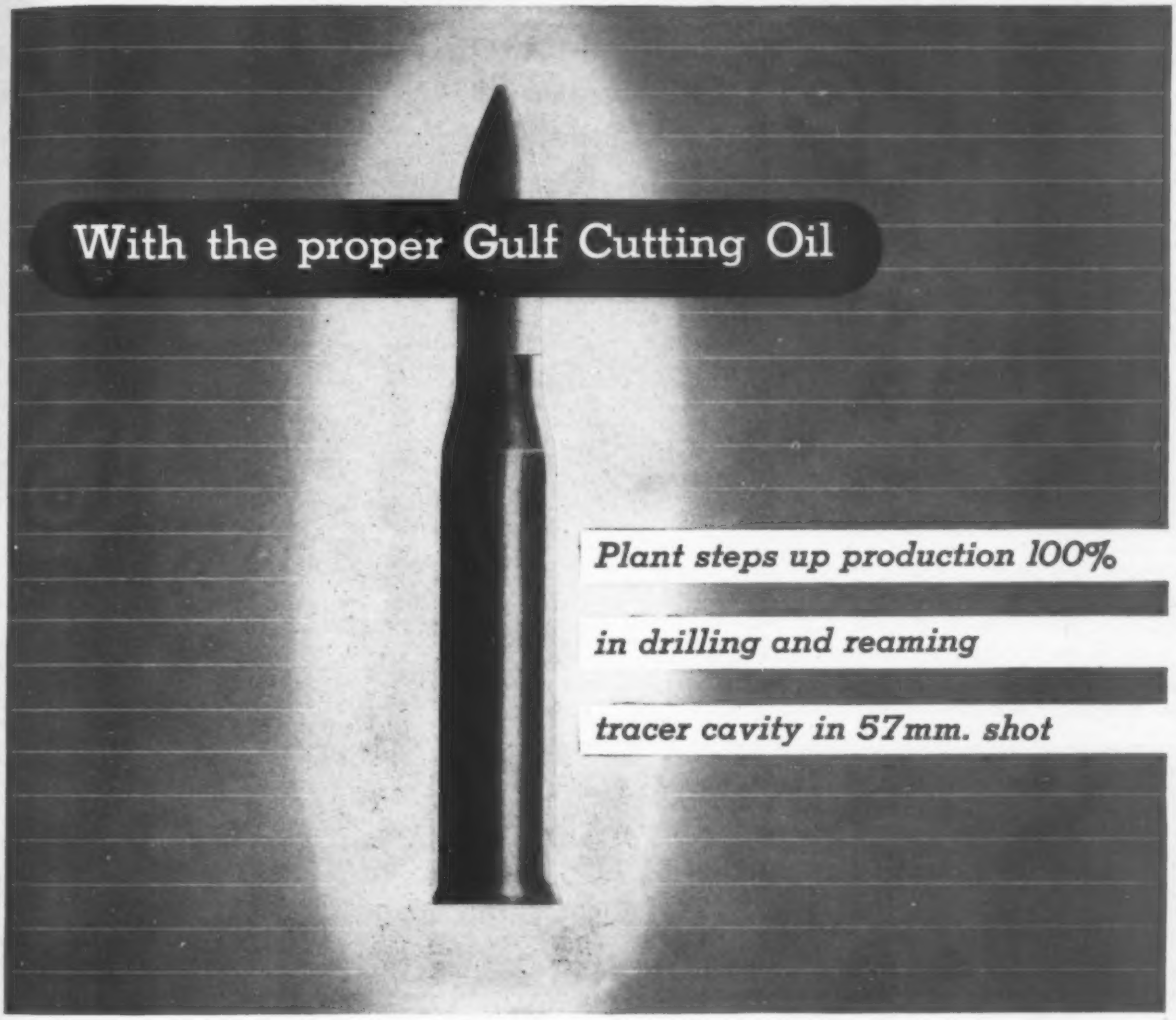
Traffic

NORTHWEST AIRLINES' planes carried a total of 10,062 revenue passengers during October. An all-time record of 7,064,978 revenue passenger miles was set, 65,000 more than in the previous record month of August.

WESTERN AIR LINES announces a total revenue passenger mileage in October of 3,219,405, a 1.59% increase over September and a 32.33% increase over October, 1942.

PAN AMERICAN AIRWAYS planes flew 160,847,591 passenger miles and 16,911,731 plane miles in the three months ending Sept. 30. PAA reports that in the 16 years since the company inaugurated American-flag international air transportation, its planes have logged more than 231,565,000 miles.

CHICAGO AND SOUTHERN AIR LINES carried 17.64% more revenue passengers during the first 10 months of 1943 than during the same period of 1942. The airline flew 29,551,091 revenue passenger miles during the 10 months. The total number of revenue passengers carried in October shows an increase of 25.65% over October, 1942.


With the proper Gulf Cutting Oil
Plant steps up production 100%
in drilling and reaming
tracer cavity in 57mm. shot

Tool life greatly increased — finish substantially improved - - -

Another war plant steps up production through improved machine tool performance—thanks to the proper Gulf Cutting Oil, as recommended by a Gulf Service Engineer.

THE PROBLEM: Drilling and reaming the tracer cavity in 57 mm. armor-piercing shot, using soluble oil. Getting over 50% rejections, tool life 200 pieces. Rejections extremely costly, since these were final machining operations.

THE SOLUTION: Proper Gulf Cutting Oil put in service. No other changes in machining practice.

RESULT: Rejections entirely eliminated, representing a 100% increase in production, tool life increased 1,000%, finish substantially improved.

It will pay you to investigate Gulf Cutting Oils —call in a Gulf Service Engineer now and ask him how they can help *you* improve finish and increase production and tool life. For your copy of the booklet on Gulf Cutting Oils—which includes a helpful 45-page machining guide—send the coupon below.

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Please send me, without obligation, a copy of the new revised booklet, "Gulf Cutting Oils," which includes a helpful Machining Guide.

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Latin American Transport Requirements Outlined By American Airlines' Official

A wide difference exists between domestic and international cargo operations, Karl de Blinde, cargo traffic superintendent for American Airlines de Mexico, declared in a recent interview in Los Angeles. He urged that aircraft manufacturers design planes adaptable to operations peculiar to Latin America.

"You can't lump these two operations into one category. Equipment and operating technique vary greatly. Until now, we've taken what planes we could get for domestic cargo and adapted them ourselves," de Blinde said.

"Internally, we need small, rugged cargo planes, with a steep angle of ascension, capable of landing on short, rough fields. A twin-engine plane of 14,000 gross weight to carry a 1000-pound cargo and with bulkhead movement to accomodate six to eight passengers would approach the ideal."

He specified balloon tires for rocky or muddy landing fields, and wide doors for loading.

As examples of "in-the-field" cargo adaptations, he described the recent placing of a triple door on a Lockheed 14, and arranging an undercarriage for holding several 25-pound iron balls recently flown to interior mines for ore crushing. This later adaptation worked on a principle similar to the bombbay, and was used on old Fords and Travelaires, he said.

International cargo between Mexico and the United States is playing an important part in the war, de Blinde stated. Many of these shipments are war priorities, including samples of cinchona bark for quinine and strategic minerals such as mercury, mica, asbestos and tungsten.

Counter-Balance Between Europe's Lower Labor Costs and U.S. Plane Utilization Cited

FEARS THAT EUROPEAN airlines can cut expenditures due to lower labor costs, thereby forcing subsidies for American companies, are groundless, said K. H. Larsson, chief engineer of A. B. Aerotransport, Swedish airline, in a recent interview with *American Aviation* in Los Angles.

American aviation circles have placed too much emphasis on this "bugaboo," Larsson asserted.

"First of all, flight crew and fuel costs will approximate the same expenditures for American and foreign operators," he said. "Foreign crews will expect the same wages as American crews. Their living expenses while on duty are going to equal yours. Refueling of planes in other than home territory levels off fuel expenditures.

"This brings us to two factors which vary for European countries and the United States, yet these two factors, namely, ground labor costs and plane utilization, counter-balance one another.

"In Europe ground labor costs approximately one-half, 6c per mile flown as compared with 12c per mile flown in this country, assuming 20 labor hours for every flying hour. On the other hand, Americans utilize their air fleets twice as much as Europeans with resulting fixed charges favoring Americans on a ratio of 7.5c per mile as compared with 15c per mile in Europe.

"The average yearly utilization of an American airplane is 3,000 hours while we average 1,500 hours. This is due to numerous reasons. Fewer schedules are operated in Europe because there isn't the density of traffic such as produced in this country. Trade barriers such as tariffs and requirements of numerous passports and visas act as deterrents."

He pointed out that ABA, one of Europe's most economical operators, had a yearly operating cost, excluding depreciation, of 69c per mile as compared with 59c, the American average. "Full use of an airplane is the greatest economy of all" was his conclusion. "We will try to increase utilization, but American operators hold a natural lead."

As an operator of both foreign and American equipment (before the war ABA flew five Douglas DC-3's and five Junkers) Larsson said his company was sold on American transports as "best in the world."

Specifically discussing Sweden's air development, Larsson described the difficult terrain of his country as posing a problem to locate good spots for airports. It's a costly proposition to build one. Millions of crowns were expended in blasting away rocks for Stockholm's terminal, Bromma Airport.

However, runways are now being extended to 6,000 feet and 4,600 feet to accommodate larger craft. His own company is spending the equivalent of two million American dollars in new hangars and shops at Bromma, anticipating the necessary facilities for international airlines overhaul.

While in this country, Larsson is going to study All-American's pick-up system as he feels this may prove the natural answer to serving Sweden's northern sector and many internal spots where it is virtually impossible to locate an airport.

He foresees a compromise in European and American radio and navigational procedures so that an international standard may be quickly adopted by all.

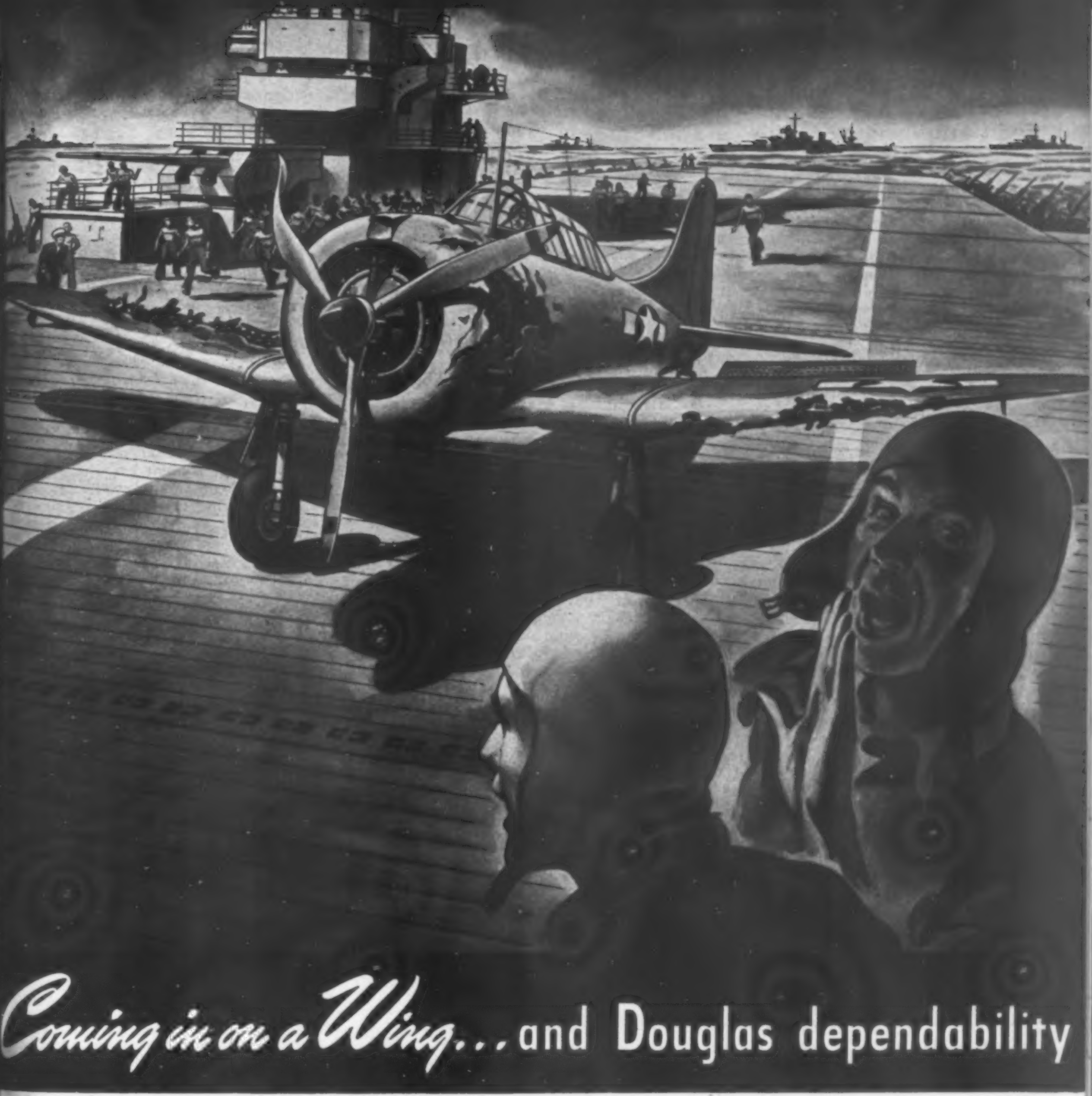
Shown discussing Mexican air cargo plans at conference in Los Angeles are, left to right—Marshall S. Neal, assistant to the president of Douglas Aircraft Co.; Nat Paschall, domestic sales manager of Douglas; Karl de Blinde, cargo traffic superintendent of American Airlines de Mexico; and John A. Smith, Western cargo traffic superintendent of American Airlines.

Traffic

CONTINENTAL AIR LINES' September passenger revenues showed a 44% increase over the same month in 1942 and were up 5% over August. Passenger revenue miles for the month increased 5% over August and were ahead of September, 1942, figures by 32%.

NORTHWEST AIRLINES' planes carried an estimated 10,125 revenue passengers during September—nearly twice as many as in the same month a year ago. They flew 7,000,000 revenue passenger miles during the month—about 100,000 more than in the record month of August, and 3,000,000 more than in September, 1942.

PENNSYLVANIA-CENTRAL Airlines reports that the return of a single airliner reflected sharp gains in service, with revenue plane miles increasing 26% in September over the same month in 1942. Revenue plane miles flown during the month totalling 289,827, compared with 230,113 in September last year. Air express and air mail increased more than 60% during the first nine months of 1943 over the same period in 1942.


Coming in on a Wing... and Douglas dependability

Operating from a U. S. Aircraft Carrier during the invasion of North Africa, an SBD Dauntless Dive Bomber Pilot flew into a tree while strafing an enemy tank. He damaged the propeller, tore the cowling from one side, ripped the leading edge of the left wing at the root and slashed away the outboard end of the right horizontal stabilizer. In spite of this major damage, the plane returned to the carrier and made a perfect landing. Even as that pilot came in on a wing and Douglas dependability, so United Nations flyers throughout the world are safer while doing greater damage to the enemy because of the ruggedness Douglas men and women build into their planes.

PROGRESS REPORT... The 5,000th SBD Dauntless Dive Bomber will have been produced by the Douglas El Segundo Plant in November. On each of two successive recent months production was 45% ahead of schedule!

Douglas
AIRCRAFT COMPANY
Santa Monica, Calif.
Long Beach El Segundo, and Daggett, Calif., Tulsa, Oklahoma, Oklahoma City, Chicago
Member, Aircraft War Production Council, Inc.

Burden Sees 'No Reason for Complacency'; Calls Aviation's Growth Slow

The American people confidently expect that the aviation industry will offer this country one of the new horizons for future industrial and economic growth, said William A. M. Burden, special assistant to the Secretary of Commerce in a recent speech entitled "Future Pattern and Policy of Ground Facilities."

"If our future accomplishments are to measure up to what we have done in the past, new industries must be developed comparable in size and significance to the automobile and radio enterprises which gave such an impetus to American business in the first quarter of the 20th century," Burden asserted.

Whether the aviation industry meets this challenge will depend on the energy and drive which business and government give it, he said.

"We have no cause for complacency," Burden declared. "Commercial aviation has not grown with extraordinary rapidity. The first successful airplane was flown 40 years ago—only a few years after the first practical gasoline automobile appeared on the roads; yet by 1939 the manufactured products of the automobile industry had reached $3,744,753,863, and the aviation industry in the same year was only $225,000,000," he pointed out.

A national airport plan embracing 6,000 airports including ports for transcontinental and transoceanic operations, expansion of facilities at existing designated air carrier ports, construction of facilities for local and feeder scheduled service and establishment of landing fields for the private flyer is now being projected, Burden stated.

He said that based on a study made by Civil Aeronautics Administration in 1939, a program embracing 4,000 airports was contemplated. The increase to 6,000 airfields is considered necessary to meet the needs of private flying, he asserted. Most of the additional 2,000 which have been added to the program are small fields for private flying, he stated.

Key airports, such as are required for transcontinental and transoceanic operations, probably will require extension of runways to 7,000 feet, sea level length, the speaker said. If wing loadings and power plants continue to increase, still longer runways may be required, he added.

"Many airports of our present air transport network are deficient in some respects with the result that the carriers have to operate into these fields under limitations. If at all possible these fields should be improved sufficiently to remove the operational limitations and runways with effective lengths of 5,000 feet at sea level provided," Burden asserted.

Burden pointed out that CAA has estimated in connection with recent hearings that some 600 locations might be necessary for the inauguration of local service in the postwar era. Runways of 3,000 feet are belived sufficient for these operations. Many of these ports already are built but need additional facilities.

"The development of private flying provides aviation's only opportunity to become a mass production industry. The volume of private airplane sales depends to a large extent on the utility of the airplane and the utility of aircraft—until that happy day when the perfected helicopter is with us—will depend very largely on an extensive system of conveniently located private airports. Therefore it is not too much to say that the provision of adequate facilities for private flying is the primary postwar airport problem.

"Our plans, though not complete, indicate the need for an additional 1,900 small 1,800 to 2,500 ft. effective length fields for the private flier," Burden explained.

This total expansion program might cost approximately $800,000,000, he said. This would be double the country's present airport investment but only a fraction of the $2,250,000,000 spent annually by federal, state and local governments on highways, streets and roads. Approximately 85% of the country's present $800,000,000 airport investment has come from federal funds.

Burden also discussed at considerable length the plans for modernization and expansion of airways, proposed development of ground facilities, possible need for continuation of student training programs and technological improvements which will make flying easier and safer in the future.

CONTINENTAL AIR LINES reports that October passenger revenues showed a 4½% increase over September and were up 36% over October, 1942. The number of passengers carried in October was up 8% over September and 33% over October a year ago. Passenger revenue miles flown were up 4½% over September, and increased 16% over the same month a year ago.

NORTHWEST AIRLINES announces an all-time record of 3,984,377 airmail pounds was carried during the first 10 months of 1943, an increase of 1,491,063 pounds over the first 10 months of 1942. A second record was reported in Northwest's handling of 556,164 airmail pounds during October—an all-time monthly record and an increase of 33,316 pounds over the September total. Express figures for cargo carried during the 10-month period showed an increase of 311,682 pounds over the same period last year. The October express total of 147,558 pounds was an increase of 39,778 pounds over October, 1942.

AIR EXPRESS DIVISION, Railway Express Agency, reports that records were smashed for the second consecutive month when airlines carried 1,375 tons of air express in July. The new high figure was an increase of 36.6% over July a year ago. The number of shipments totaled 128,245, up 8.8%, while gross revenue increased 12.5%.

CANADIAN PACIFIC AIR LINES carried 8,018 passengers during September, representing an increase of 50% over the same month a year ago. The number of passengers carried for the first nine months of the year were 55,489, being a gain of 24% over the same period a year ago. Passenger miles increased 87% over the same month last year and for the year to date increased 86%. Air mail handlings continued to show increases and although total pounds carried for September were only 1% higher than for the same month last year, total for the year to date was 43% higher than for the corresponding period in 1942. There was a pronounced increase in the number of air mail pound miles which for the 9 months under review were 684,376,000 as compared with 294,418,000 an increase of 132% for the 9 month period although there was only an increase of 9% reflected for the current month.

TRANSCONTINENTAL AND WESTERN AIR, Inc., reports net earnings of $1,288,935 for the first nine months of 1943, after reserves for federal income taxes and contingencies. This amounts to $1.34 per share and compares with net income of $1,338,817, or $1.41 per share, for the same period of 1942.

This AA Power 'Broom' Sweeps Clean

When a Fleet Service clerk of American Airlines gets to work with this power sweeper, nuts, bolts, screws and sharp pieces of metal are gathered up into the maw from ramps and from hangar floors where they might injure airplane tires. The outside sweeper takes the place of a crew of three or four men. An inside sweeper can completely cover the interior of one hangar in less than an hour, a job that requires five or six man-hours if done by hand.

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AIR. r the s for This with hare.

ONE MILE DOWN TO CHRISTMAS

Out we go at around five thousand . . . I never thought my Christmas tree would be a 'chute!

Here I am, though . . . on this Holy Night . . . drifting down to earth . . . to finish this job.

Time's short . . . and you know, as I look down below . . . I say a silent prayer . . . whisper it to the air.

Now . . . I'm coming down . . . coming down all *safe* and *sound!* coming down . . . to make "Peace on Earth . . . Good Will to Men!" a living reality.

And next year . . . Back to a Christmas tree that's green . . . decorated with tinsel and ornaments . . . standing in a room that's quiet and serene . . . where a fire on the hearth glows warm and friendly. Back home! Back to my freedom!

Back to my own little mansion . . . back to the ones I love!

And, Sky Soldier, to bring you back safely, we are working day and night. To you . . . and all like you . . . to your loved ones, too . . . we send our grateful Christmas greetings! ☆ ☆ ☆ ☆

ARMY E NAVY

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SAFE-T-CHUTES

Air Power is winning the war . . . The more Bonds you buy . . . the more hours they fly!

SWITLIK PARACHUTE COMPANY

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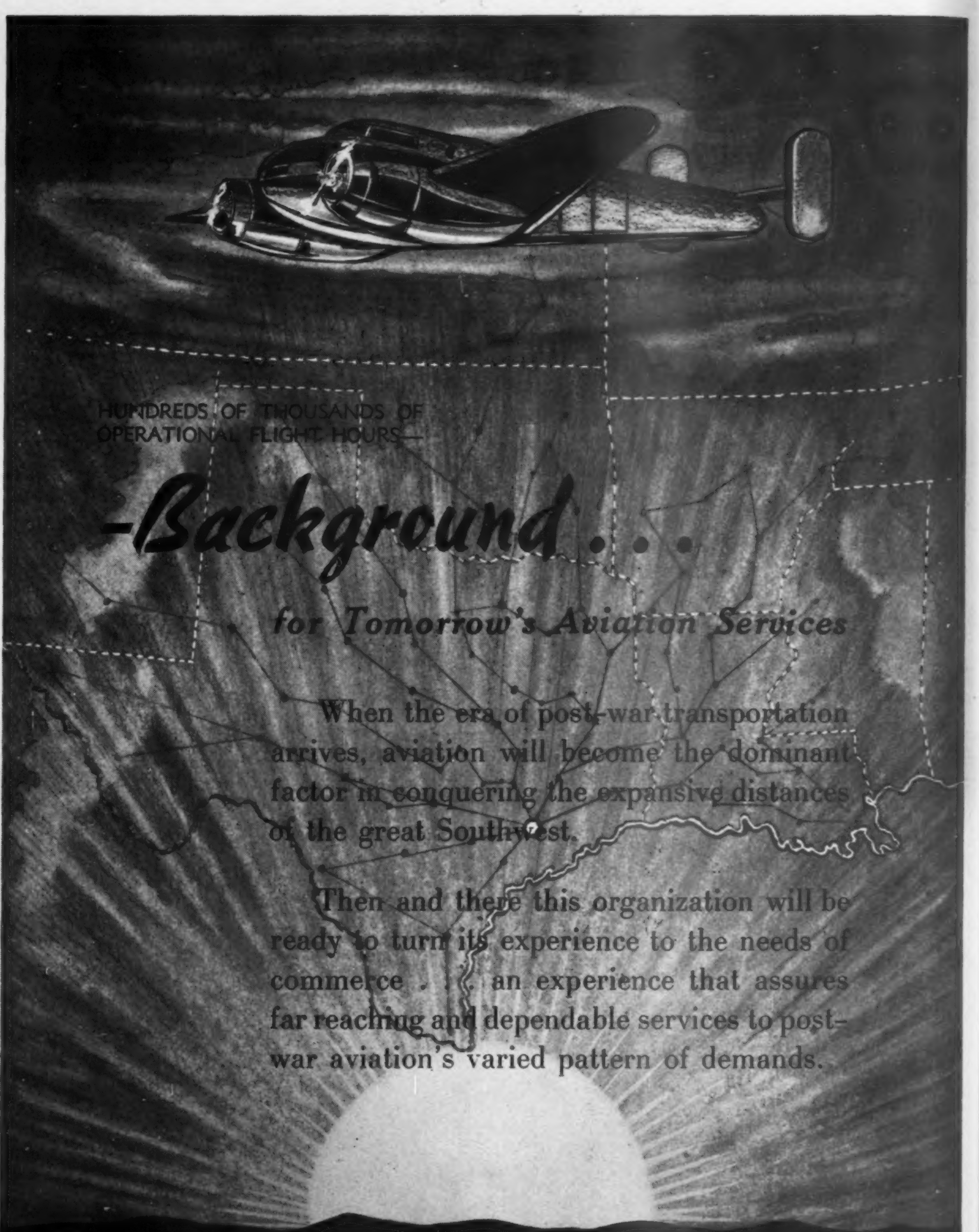

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When the era of post-war transportation arrives, aviation will become the dominant factor in conquering the expansive distances of the great Southwest.

Then and there this organization will be ready to turn its experience to the needs of commerce . . . an experience that assures far reaching and dependable services to post-war aviation's varied pattern of demands.

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FLIGHT AND OVERHAUL CONTRACTORS TO THE U. S. ARMY AIR FORCE

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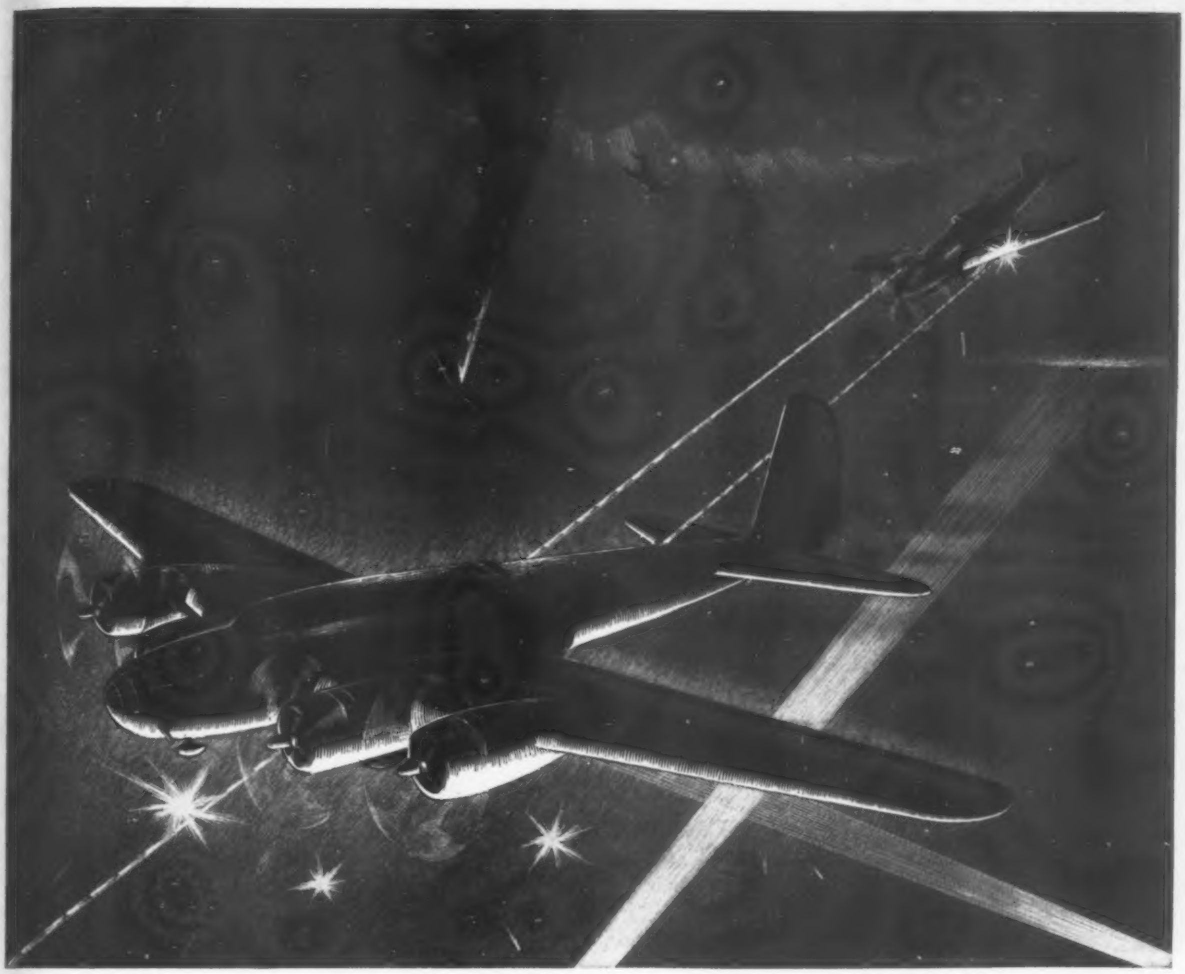
HOUSTON

AVENGER FIELD
SWEETWATER



Bullet wounds that **heal themselves**

EVEN before that fatal day of December 7, 1941, Shell's great research laboratories were supplying manufacturers with *butadiene*—the key to a synthetic rubber that will do things natural rubber *can't do!*

Today this synthetic rubber made with butadiene is performing one of the miracles of modern warfare! It is used to line airplane gasoline tanks . . . make "bullet-riddled" tanks self-healing. When enemy bullets pierce the tanks, the spongy rubber fills the holes, keeps the plane flying.

It is research such as this that first produced 100-octane fuel in commercial quantities . . . one of the reasons the majority of the country's leading plane and engine manufacturers prefer Shell Aviation Fuels. Shell Aviation Products are also preferred by many airlines, aviation training schools, and airports.

Farsighted airport operators will find Shell's wartime popularity a profitable peacetime asset.

SHELL

AVIATION FUELS **AEROSHELL OILS**

Airline Personnel

Charles W. Wendt has been elected vice president of All American Aviation, Inc.

William J. Halliday has been appointed mail and express traffic representative for Transcontinental and Western Air in the New York district.

Canadian Pacific Air Lines reports that **L. G. McKinnon** has been appointed special representative of its Western Lines reporting to the general manager at Edmonton, and **F. Young** has been appointed acting superintendent of maintenance of Western Lines with headquarters at Edmonton.

United Air Lines announces the resignation of **Joseph P. Ripley** as a director of the company.

William V. Brown of Waltham, Mass., has been named assistant director of postwar planning for Northeast Airlines.

Halliday

Wendt

American Airlines announces that **Edward J. Eidson** has been appointed assistant to the general traffic manager and will supervise the traffic department in New York as well as coordinate traffic department operations with other departments throughout the system.

Lieut. Comdr. W. A. Evans, SC, USNR, former district manager for Pan American Airways at San Francisco, has been assigned to duty in the Navy Dept. in Washington in the handling of air cargo, with offices in the Navy Bldg.

Richard C. Long, regional director of Pan American Airways for the United Kingdom, Eire, and Portugal, recently completed 10 years' service with PAA.

Dean

Perry

Zimmerman

English

Capt. Haakon G. Gulbransen recently marked the tenth anniversary of his flying activities for PAA.

Vernon L. Gunn, DTM for Transcontinental and Western Air at Dayton has been promoted to the newly created post of assistant to the Central Region traffic manager with headquarters in Chicago. TWA also announces that its executive vice president, **E. Lee Talman**, recently was named vice president in charge of aviation of the Kansas City Chamber of Commerce.

All American Aviation, Inc., announces reelection of **Austin M. Zimmerman** as secretary and general counsel.

Roy Backman has been appointed DTM in charge of San Diego and El Centro, Calif., areas for Western Air Lines.

Redmon

Gates

Pennsylvania-Central Airlines announces the appointment of **Marian McClintic** as assistant chief hostess for the western division of the airline.

Jessie Bathgate, Western Air Lines stewardess who won a contest in 1941 as the "most outstanding stewardess of the year," recently was married to Lt. Henry Claffey of the U. S. Maritime Service.

O. T. Larson, vice president of Trans Canada Air Lines, has been granted a leave of absence to fill a war assignment in a civilian capacity overseas, the company announces. The announcement said his appointment to the war post was made on recommendation of Gen. H. H. Arnold, commanding general of the United States Army Air Forces.

Chicago and Southern Air Lines announces that **John Nooney** has resigned as treasurer to open his own accounting firm in St. Louis.

Continental Air Lines reports that **Horace Gates** has been named DTM at Denver; **S. B. Redmon** has been appointed assistant to R. J. Moulton, Jr., director of research, schedules and tariffs; and **Betty Jane English** has joined the airline as hostess.

Edward Truxal has been named DTM for Mid-Continent Airlines in Minneapolis. Mid-Continent also announces that **Roy B. Thompson**, formerly DTM for Western Air Lines in San Diego has joined its organization as DTM in St. Louis.

Trans-Canada Air Lines announces appointment of **Walter W. Fowler**, operations superintendent at Moncton, as assistant operations manager at Winnipeg, and **Frank I. Young**, at present chief pilot at Toronto, as successor to Fowler.

Gulbransen

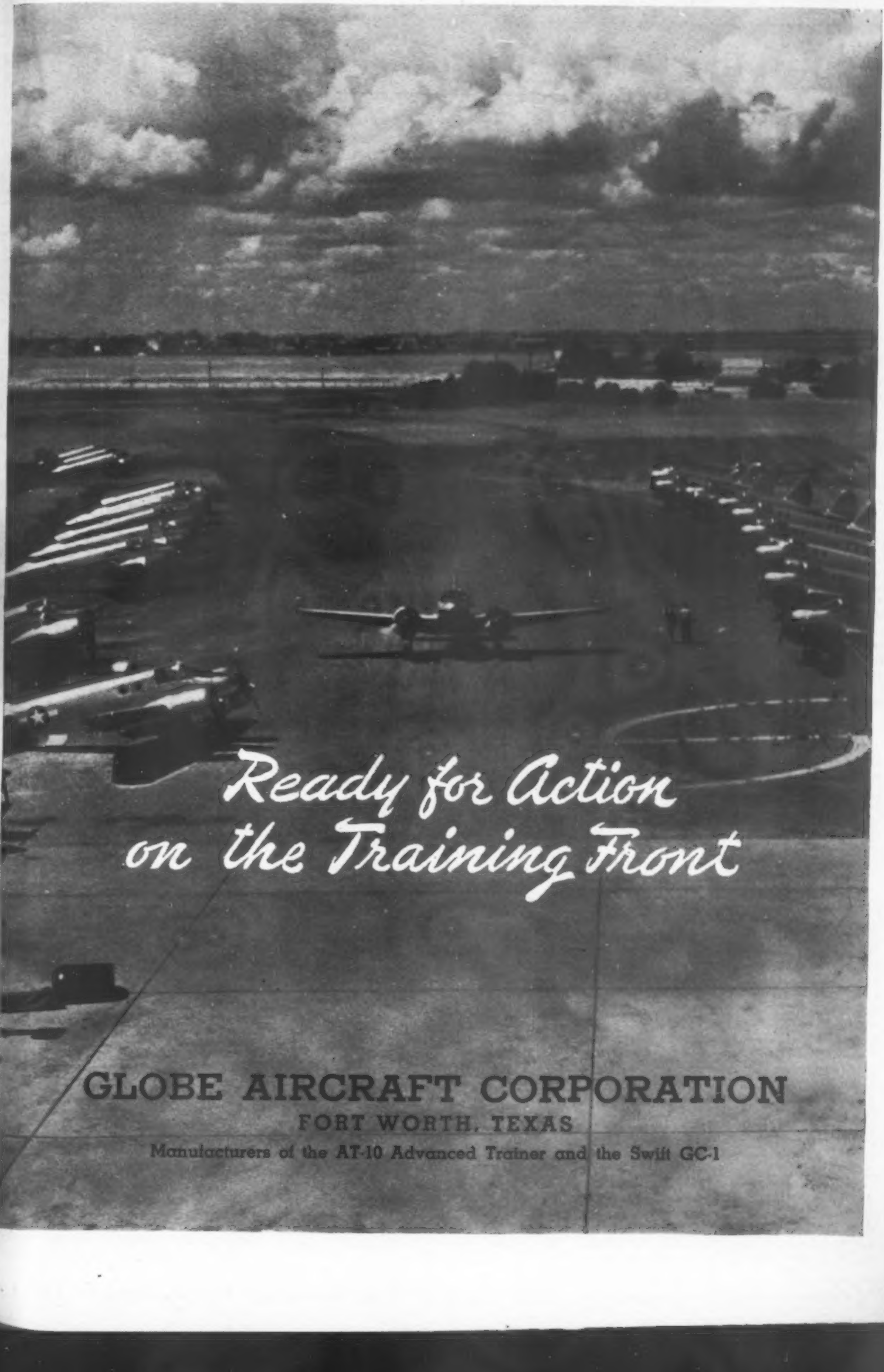
McClintic

Thomas O. English has been named director of budgets of American Airlines. AA also announces that **Thomas W. Macdonald** is the airline's news representative in Washington, D. C. He was formerly director of public relations of Republic Aviation Corp.

United Air Lines reports that **James P. Dean** has been named DTM at Hartford, Conn., and **Maurice L. Perry** has been appointed superintendent of counter service for the system with headquarters in Chicago.

Backman

Gunn


Ready for Action
on the Training Front

GLOBE AIRCRAFT CORPORATION

FORT WORTH, TEXAS

Manufacturers of the AT-10 Advanced Trainer and the Swift GC-1

Wanted: More 'Proof Test' Engineering

Aircraft Industry Has More Designers Than Laboratory Men, Foley Observes: Foresees Ultimate Balance

By E. J. Foley

Foley

THE AIRCRAFT MANUFACTURERS' concept of "laboratory" seems to be limited to that portion of the plant where physical and chemical tests are performed on samples of wing structure and the like. Could it be that this restricted scope of action contributes to the often - expressed need of the airlines for the injection of more "operating consideration" into equipment design?

We don't intend to belittle the testing efforts of the aircraft industry. We have seen too many of the splendidly equipped labs, know too many of the extremely able engineers, and benefitted from too many erudite reports to be guilty of any such inference. However, the subject came up in conversation recently and it seems definitely worthy of exploration. Dick Prewitt, Engineering Vice President of Kellett, broached the subject during an intersession conversation at the SAE Air Cargo Meeting.

He introduced the automobile industry as a comparable parallel. Even realizing that certain aircraft manufacturers validly object to the comparison, we cannot help but feel that every justifiable effort should be made by aircraft manufacturers to learn all they can from the auto field. It is with this thought in mind that we are expanding upon Prewitt's remark, at the same time soliciting your reactions.

Auto, Plane Markets Differ

Proceeding with consideration of the parallel, it seemed to us (without benefit of exact statistics) that in the aircraft industry, the ratio of "design" engineers to laboratory or proof testing engineers was considerably greater than one. The reverse would seem to be more true of the automobile industry. Naturally part of the explanation for this discrepancy lies in the relative stages of development of the two fields prior to the tremendous war expansion. Another element which must be taken into account is the basic difference in the type of market being supplied. The transport aircraft manufacturer sells to an organized, technically capable industry; the auto manufacturer to the public—the individual who expects to *use* the vehicle in whatever way he sees fit.

However, the remainder of the explanation may lie in the fact that too much aircraft engineering rests upon paper design. This is a possibility—not something to be guessed at arbitrarily or with pseudo-expert air. It is as such—merely a suggestion to be considered and evaluated—that we advance it.

We will all agree that theoretical design perfection can come right from paper. Yet such exacting design can be twice foiled in application. Manufacture on an economically sound basis is not always tolerant of the niceties of design. Aircraft operation and maintenance have been frequently and discouragingly frustrated by a designer straining for that last ounce of weight-saving or that extra mile per hour of speed.

Possibly the gradual transition of engineering accent from design theory to practical laboratory operations proof testing will afford an ultimate balance between these two important phases of aircraft manufacturing.

It is entirely feasible that present day technique is the best that can be found or all that is warranted by the market. If such is the case, we shall welcome evidence to that effect. We know that component testing in the laboratory plus the certification testing required by regulatory agencies add up to a considerable overhead expense. Yet is today's engineering properly balanced between theory and practice? If not—can it be so balanced by the manufacturers themselves on a sound basis? This latter question permits either company- or industry-supported practical testing facilities to supplement theory.

New Aircraft Heater

CURTISS C-46 AIRPLANE

This new aircraft heater, said by its makers to be the only high-altitude combustion type airplane heater that meets every requirement of modern aviation," recently was unveiled in New York by Surface Combustion, Toledo, O. Its major purposes are to defog, de-ice, and anti-ice windshields, and to prevent ice from forming on wings and empennage surfaces; to keep bombsights clear; to keep instruments, gun breeches, and other equipment operative; "even to keep the crew alive." The heater uses liquid fuel, usually gasoline, and operates on the principle of burning a vaporized or atomized fuel in the center of a column of spinning air.

For the purposes of argument, let's assume that added practical testing is a recognized need. The problem then becomes one of determining the means for achieving the goal. If our memory serves us right, one way of permitting diversion of qualified technical personnel for this required expansion was discussed by the Aeronautical Chamber some two years ago. It was the industry materials and accessory testing laboratory to handle many detailed investigations and acceptance tests, thus relieving manufacturers of repetitive routine tests. Both Jack Grey and Frank Shanley of Lockheed were interested in the project which was finally shelved because of wartime shortages.

Another possible solution, which may be less practical because of the greater number of "partners" involved, would be the joint sponsorship of the laboratory by manufacturers *and operators*.

We don't believe we will be misunderstood if we give our personal angle on the situation today. It strikes us that the manufacturers have been able to expand their testing *capacity* somewhat through interchange of test results sponsored by the Aircraft War Production Councils. This is a most hopeful sign. However, we feel that the air transport operators have had to and may have to continue buying built-in operating surprises. The testing, full scale experimentation, and development necessary to the solution of these problems does not strike us as strictly an operator-responsibility.

Manufacturer Accent Needed

The testing which needs added manufacturer accent may be defined as home-product, not acceptance. It comprises the testing of units, systems, components and the aircraft itself as made and/or assembled by the aircraft manufacturer himself. The results of this accented testing give the manufacturer a system of checks and balances on his own handiwork. The earliest possible familiarity of the manufacturer with the *overall* performance of his parts and his whole is vital to the production of an air transportation vehicle.

There is *some* justification for the opinion that the actual airline operation is the only laboratory geared to handle thoroughly the assignment which we have labeled above as a manufacturer-responsibility. To the advocates of this school of thought, we offer not a refutation but simply our concept of their case.

We repeat that these columns never "expert" on a subject. Where we do take

(Turn to page 74)

OUTREACHING
means
OUTPUNCHING

• The longest streak of lightning in the world is flashing through the skies! Super-range Lightning P-38 fighter planes team up with heavy bombers to deal knockout blows at distant targets.

On the production front smoothly-operating teams of Rohr production fighters work 'round the clock to help Lockheed put more and more of these outreaching P-38's on the wing. They use their skills to add new punch behind the challenge of increased production. They work to save the lives which will be spared by quicker victory.

ROHR
AIRCRAFT
CORPORATION

HELPING TO WRITE THE STORY OF TOMORROW

CHULA VISTA, CALIFORNIA

Foley

(Continued from page 72)

sides, we shall always guarantee equal opportunity of a hearing to any interested opponent.

Reverting to the point in question, if the airlines must be the laboratory, they are presently too isolated from the manufacturers to function as a complementary aid. Report writing, letters, visits, phone calls and all the conventional media for the exchange of information somehow frequently fail in practice to do more than provide a stopgap, quickly forgotten solution to the specific instance of trouble in question. The necessary effective, enduring, practice influence on design is rarely attained.

Probably the ultimate in effectiveness of this manufacturer-operator relationship can be achieved only through the "loan" of engineering personnel by the manufacturing industry to the airlines. These men would be brought into close contact with the actual airline operating and maintenance problems by assigning them as mechanics or possibly flight engineers. This indoctrination would have to be a continuing, cooperative venture, the manufacturers' design staffs presumably rotating through the airlines' operating departments, each man spending about a year.

We have mentioned several times the tremendous impetus being given to such a program by Pan American's Andre Priester. He is definitely sold on the idea that the airlines must be a growing and effective source for practical design training through actual enforced contention of manufacturing engineers with the problems of their brain-children.

We were not surprised when he told us just a few weeks ago that nine men are now in training as flight engineers with PAA. These men represent both aircraft and engine manufacturers. It is intended that they will absorb a realization of the equal importance to the operator of the words—ground time, simplicity, accessibility, regularity and range, speed, rate of climb, etc.

In closing, may we review our position and again ask for your thinking to supplement ours. Dick Prewitt started this whole thing when he pointed out the accent upon testing in the automobile field as contrasted with aircraft and hazarded the guess that the trend in the aircraft industry might be toward an increasing recognition of laboratory testing in the very broadest, most practical sense.

We have simply built up targets on either side of the case. The best interests of all participants will never be served by your violent *but silent* disagreement or agreement. We have asked several questions—not as bait, but in the hope that those who know the answers can assist all of us in plotting a sound course for the future. If we bring all the known angles into the open, the entire aircraft industry stands to gain.

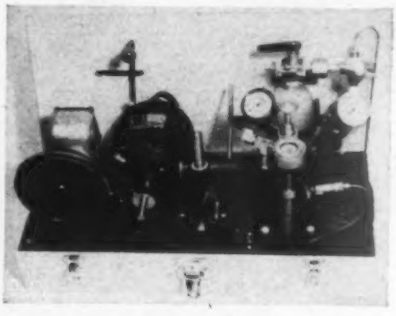
Equipment News

Temperature Controls

General Controls Co. of Glendale, Cal. has announced a new line of hi-g temperature controls for operating flaps. The controls operate hydaulically and are designed to give instant, automatic response on either liquid or aircooled engines. All of the hi-g features are said to be retained in this new line for controlling engine cowl flaps including positive operation in any position, regardless of vibration, change of motion or acceleration.

Portable Plug Tester

This is the AMSCO portable spark plug tester, Model P80. The product of Airplane Mfg. & Supply Corp., 6853 Lankershim Blvd., No. Hollywood, Cal., the P80 is a self-contained unit consisting of a hand and motor driven magneto, hand operated pressure test bomb and a gap setting tool. The aircraft spark plug lines of BG, Aero, Bendix, Champion, AC can all be handled by the device. The equipment is mounted in a small portable box and weighs 80 lbs. A wide variety of gauges, adapters and wrenches and an electrode forming tool complete the set.



Plastic Sheeting

The current role played by Lumarith plastic sheeting coated on one side with pressure sensitive adhesive is that of Army map protection. The result of its application is claimed to be a transparent, moisture-proof, grease-proof, dust and sand-proof shield. Two surfaces are available—one a clear finish, which can be written on with a china or grease pencil and the other a mat finish which can be written on in pencil, pen or crayon. This material is sold commercially under the name of Presto-Seal by Arthur Brown and Bro., 67 W. 44th St., New York. Lumarith is a product of the Celanese Celluloid Corp., 180 Madison Ave., New York.

Transparent Plastic Shield

A transparent plastic shield has been devised by engineers of the Frigidaire Division of General Motors to protect propeller blades from air drafts during the many balancing operations required in production. Originally used only at the grinding benches as shown, it is now used for final inspection because of its joint advantage of protection and transparency.

Lightweight Sander

This is the Model 1000 Sundstrand Sander, a new light weight, high speed unit made by Sundstrand Machine Tool Co., Rockford, Ill. Weighing less than 6 pounds and with a speed of 3500 oscillations per minute, the 1000 can be equipped with different types of sandpaper attachments for all types of surfaces. A palm lever type switch at the top of the housing starts reciprocating action as soon as the sander is gripped and automatically stops action upon release. Stroke uniformity and the high speed are said to materially increase the life of the abrasive.

Adjustable Stop-Countersink

Designated as Model C and available in cutter sizes of 7/16" and ⅞", an adjustable stop-countersink is the product of Aircraft Tools, Inc., 750 E. Gage St, Los Angeles, 1, Cal. It supersedes the company's micrometer and regular countersinks. The shell housing is bell shaped and larger in diameter to give a greater bearing surface and keep the cutter square with the hole. A ratchet stop for depth adjustment by hand snaps into position at each two thousandths of an inch. Cutters are high speed tool steel.

Abrasive Sanding Discs

Designed for continuous high speed work, according to Fibre Abrasive Corp., 1129 E. 74th St., Chicago, Ill. the manufacturer, these Marvel Abrasive Sanding Discs are made of aluminum oxide grit, resin bonded to a chemically treated, pliable fibre back. It is said that the resin bond will not soften under frictional heat and the discs can be cleaned and reused. All grit numbers and diameters from 6 to 26 inches are available.

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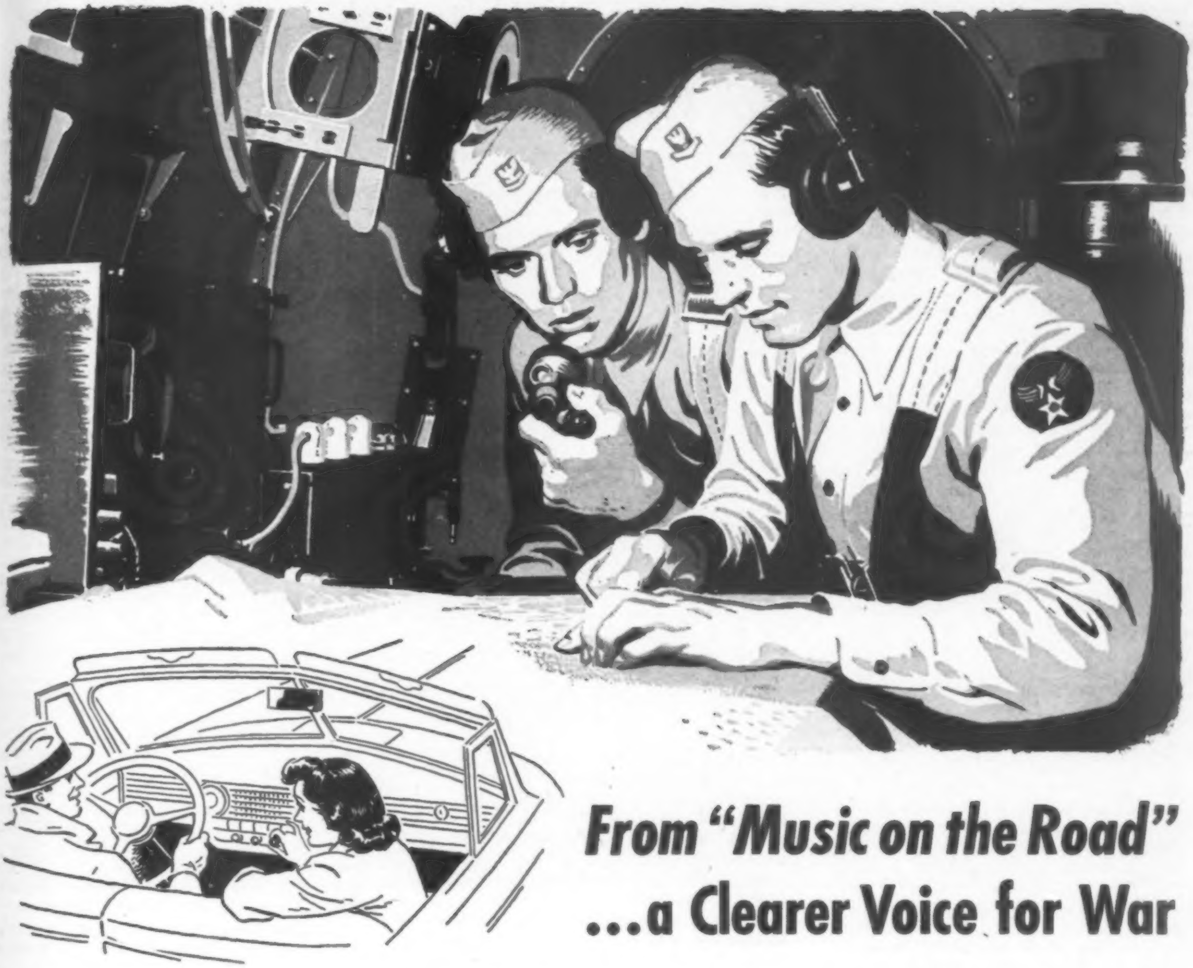


From "Music on the Road" ...a Clearer Voice for War

Few entertainment mediums operate under such unfavorable conditions as the automobile radio. It sings its arias on a "stage" that bounces and jolts. It cracks its jokes while trolley-wire "lightning" snipes at its sensitive nervous system. It reads its news reports under the savage attack of high-tension current from the automobile ignition system. Even temperature and humidity get in their licks. Talk about a "dog's life"! Rover, move over.

For years, Delco Radio technicians have applied themselves to overcoming the many problems of vehicular radio. One by one, vibration—electrical interference—humidity and temperature—and other trouble-makers fell before their relentless quest. Automobile radio lost its stutters and gained a calm, clear voice.

But more than better entertainment came with this conquest. In their eternal search for "a better way," Delco technicians were finding the answers—*years in advance*—to similar problems of war-vehicle radio communication. When war struck, they already had a sound working knowledge of the chief deterrents to practical radio communication in bombers, tanks, tank destroyers and other mobile units. The quest for better entertainment had yielded an invaluable by-product—a clearer voice for war.

Delco Radio
DIVISION OF
GENERAL MOTORS

★ ★ ★ ★ **BACK OUR BOYS . . . BY BUYING BONDS** ★ ★ ★ ★

Shaw Questions Logic of War Contract System; Cites Boeing

THE LOGIC of a war contract system "which allows Boeing Aircraft Co. 2.1% on sales, du Pont 13.8%, and General Motors 8.3%" was questioned before the Senate finance committee last fortnight by Lucien W. Shaw, assistant to the president of Lockheed Aircraft Corp. In two appearances on Capitol Hill within 10 days, Shaw gave a statement of views of the Aeronautical Chamber of Commerce on vital postwar aviation issues. He appeared before the Senate Committee on Postwar Economic Policy and Planning as well as the finance group.

"Those companies (du Pont and General Motors) are doubtless entitled to what they received, but we feel that some increased recognition should be given to the aircraft industry," said Shaw. He told the Congressmen that "because of the difficulties we see ahead, we are not sure of our ability to maintain America's position of leadership in aviation unless Congress recognizes these difficulties in connection with pending legislation."

Shaw submitted the following recommendations:

1. Increase of the postwar tax reserve to 20% of net income, against which government bonds would be issued; proceeds to become available to a manufacturer upon cancellation of a large portion of his contracts, and to be taxable as income when received, thus giving full benefits only to those manufacturers having heavy postwar losses.
2. If contract renegotiation is not repealed, allow an option to manufacturers to elect an increased tax rate in lieu of renegotiation, or provide a "floor" after taxes in an amount equal to the excess profits credit or 3% of sales; and eliminate retroactive renegotiation on items delivered before April 28, 1942.
3. Adopt the Treasury Department's proposal for prompt credit or payment of refunds from carry-back provisions in the tax law.
4. Incorporate in the tax bill provisions of the House Disney bill giving manufacturers an option to respread amortization of plant facilities over a three-year period not to end prior to Jan. 1, 1944, with further provision for prompt payment of tax refunds arising from the respreading of the amortization deduction.

The 1943 output of the prewar aircraft manufacturers represented by the Aeronautical Chamber of Commerce is about 60 times that of 1939, or approximately 12 billion dollars, Shaw pointed out. He estimated that it will be "substantially greater" in 1944.

"To accomplish this production, it is estimated that the peak employment requirements of the manufacturers of airplanes, airplane engines, and propellers will be 1,650,000 employes, as compared to 44,000 on Jan. 1, 1939," he said. "In addition, the many subcontractors and suppliers who are of the highest importance in maintaining aircraft production are estimated to require over 1,400,000 employes, making a total for the entire industry of over 3,000,000.

"This enormous expansion has placed the aircraft industry in a position of extreme hazard at the conclusion of the war. The financial problems which we will then meet will be so serious that there are no adequate measures which our individual companies can take to protect themselves from possible disaster."

Quoting from the Harvard University study, "Financial Position of the Aircraft Industry," Shaw declared "the most startling fact developed by this study is the very small margin by which current assets in the aircraft industry exceed current liabilities."

"The 11 aircraft companies studied in the Harvard report have only the very narrowest margin or cushion of funds and inventories to meet immediate obligations," he observed. "Obviously, any shrinkage in the value of inventories, even in a minor amount, would make the industry unable to meet its debts."

Shaw advocated the use of a "business man's" technique, rather than "paper work" procedure, for settlement of terminations.

"Most dealings with the Government are done by the auditing or 'paper work' method," he pointed out. "It will be fatal to the economy if such a method is prescribed for general contract terminations. Hundreds of thousands of subcontractors and materialmen will be involved who have never been called upon for this type of documentation. To them, proper preparation for such auditing represents a practical impossibility."

Whoever represents the Government in settlement of terminations must have final authority to make decisions and to act without subsequent audits and review, Shaw recommended.

"In every large termination proceeding, countless questions will arise which must be decided on the basis of judgment of men who have previously been familiar with the facts," he observed. "These are questions for which there is no one correct answer—every man would probably reach a different answer. If one agency is to provide an answer, but be reviewed by another agency, the first agency might as well be dropped from the procedure . . ."

Shaw elaborated on this point with a practical illustration.

"At the end of the war," he reasoned, "most manufacturers will have partly-worked materials which are good only for scrap. An automobile manufacturer may have partially completed bronze castings which could be melted up and used in automobiles. Someone will have to decide for the Government whether it is better to sell the castings to the manufacturer at scrap value, or to keep them for some other purpose. He must also decide what that scrap value is. The automobile manufacturer will want the answer in a few days so that he can plan his production program. He will not take the castings if he doesn't know the price to him.

He can't be expected to take them and wait six months until someone reviews the transaction to see if it was all right. Someone must have final authority to make this decision immediately."

SEC Lists Salaries Paid Aircraft Men In '40, '41 and '42

Top salaries paid last year by 121 companies representing a cross-section of war industries were published last fortnight from reports filed with the Securities and Exchange Commission. Among those reported in the aircraft industry were:

Cessna Aircraft Co.: Dwight S. Wallace, executive vice president, treasurer and director, $89,851 last year; $16,032 in 1941 as secretary-treasurer; and $2,325 in 1940 as secretary-treasurer and director. Dwane L. Wallace, president, director and general manager, received $5,400 from Cessna in 1940; $16,619 in 1941; and $89,851 last year. Tom Salter, vice president, chief engineer and director, received $3,030 in 1940; $9,704 in 1941; and $32,531 in 1942.

Beech Aircraft Corp.: W. H. Beech, president and director, $12,449 in 1940; $19,355 in 1941; and $65,299 last year. T. A. Wells, vice president and director, $6,601 in 1940; $9,615 in 1941; and $41,015 last year. J. P. Gaty, vice president and general manager, $5,746 in 1940 when he was sales manager; $9,615 in 1941; and $41,015 last year.

Bell Aircraft Corp.: Lawrence D. Bell, president, general manager and director, $35,290 in 1940; $85,700 in 1942; and $97,166 last year; Ray P. Whitman, first vice president, $13,970 in 1940; $39,916 in 1941; and $48,983 last year. Omer L. Woodson, vice president and assistant general manager, $12,374 in 1940; $38,666 in 1941; and $45,030 last year.

Boeing Aircraft Co.: P. G. Johnson, president and director $20,000 in 1940; $20,000 in 1941; and $50,000 last year.

Douglas Aircraft Co.: Donald W. Douglas, president, $75,080 in 1940; $101,769 in 1941; and $120,471 last year.

Lockheed Aircraft Corp.: Robert E. Gross, president, $44,750 in 1940; $125,000 in 1941; and $125,000 in 1942.

United Aircraft Corp.: Eugene E. Wilson, president and director, $51,640 in 1940; $73.920 in 1941; and $78,020 last year.

General Motors Corp.: C. E. Wilson, president and director $100,670 in 1940; $149,803 in 1941; and $150,525 last year.

Bendix Aviation Corp.: Charles Marcus, vice president, engineering, $40,892 in 1940; $71,110 in 1941; $77,043 last year. D. O. Thomas, vice president-manufacturing, $34,662 in 1940; $56,160 in 1941; $60,050 last year.

Wright Aeronautical Corp.: Roland Chilton, engineer and patent licenser, was listed as receiving $168,356 in 1941 and $372,752 in 1942.

General Electric Co.: Charles E. Wilson, president and director, who resigned in 1942 to become vice chairman of the War Production Board and head of the Aircraft Production Board in Washington, was listed as receiving $135,000 in 1940; $175,000 in 1941, and $167,917 in 1942—each year's figure including extra compensation for the preceding year.

Republic Steel Corp.: showed the following payments to Tom M. Girdler (also chairman of the board of Consolidated Aircraft Corp.): $176,000 in 1940; $275,000 in 1941, and $275,000 in 1942.

Goodyear Tire & Rubber Co.: P. W. Litchfield, chairman, $100,000 in 1940 and 1941, and $175,000 in 1942.

Photograph taken at Sperry Gyro-Compass School

The United Nations go to school

THE OWNERS of those hats are learning about the Sperry Gyro-Compass the practical way. These representatives of the United Nations are seeing it in action in the Sperry Gyro-Compass School.

Many of the men who own those hats will be on convoy duty soon. They already know the risks of submarine warfare and surface contact. They know that lighthouses are dark these perilous nights, that radio beacons are silent, lightships are gone, weather reports no longer available, and even the use of radio communications rigidly limited.

And they know they may sail in prefabricated hulls built under conditions involving immense variation in residual magnetism. Their cargoes may be highly magnetic and their ships almost certain to be equipped with degaussing apparatus to render ineffective the sensitive magnetic mines that lurk in their path.

These factors spell the need of attaining absolute precision in navigation and call for navigation equipment that is impervious to profound and diverse magnetic influences.

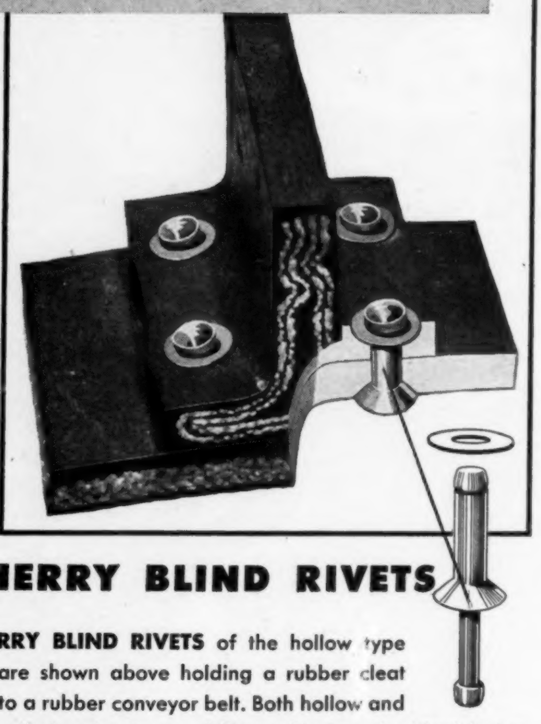
That is why these sea-going men are learning about the Sperry Gyro-Compass and why it is more essential than ever in war time. In the course of their study, they learn too that the substitution of electronic circuits* for roller contacts in the follow-up system of the new compass assures even greater reliability with less care and maintenance than before.

When these men pick up their hats for the last time in the Sperry Gyro-Compass School and board their ships, it will be with full knowledge of and confidence in the Sperry Gyro-Compass.

* The Sperry electronic Gyro-Compass is sometimes called the Sperry *Gyrotronic* (registered trade-mark) Compass.

SPERRY
GYROSCOPE COMPANY, INC.
Brooklyn, New York
Division of the Sperry Corporation

HOW TO HEAD A RIVET IN PLIABLE MATERIAL

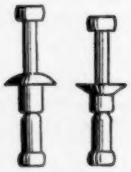


CHERRY BLIND RIVETS

CHERRY BLIND RIVETS of the hollow type are shown above holding a rubber cleat to a rubber conveyor belt. Both hollow and self-plugging types of Cherry Rivets make ideal fasteners for pliable material because they are headed by means of a pulling force. There is no hammering on rivet heads—no bucking bar needed.

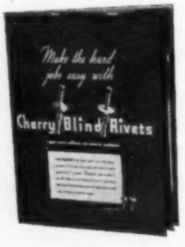
Application is faster than with conventional rivets and may be done with inexperienced labor.

There are undoubtedly many places where you too can use Cherry Rivets to save time, reduce costs and get a better job. Ideal for speeding up work on war jobs. Get the full story on Cherry Rivets now.



Self-plugging type with brazier and countersunk heads. Mandrel is pulled through rivet and permanently plugs it.

WRITE FOR HANDBOOK telling how to use Cherry Rivets. Address Department A-111, Cherry Rivet Company, 231 Winston Street, Los Angeles 13, California.



Cherry Rivets, their manufacture and application are covered by U. S. Patents issued and pending

Cherry Rivet Company
LOS ANGELES, CALIFORNIA

Bell Decides Against 10-Hour Day Plan

Bell Aircraft Corp. last fortnight announced it considered the proposed 10-hour day impracticable for its Niagara Frontier Division and would not put it into effect. Ray P. Whitman, vice president and manager of the division, said the decision followed several weeks of intensive study and was based on the following major reasons:

"(1) Women now constitute approximately 58% of the direct labor force in the division, and many are married and have family and household responsibilities. A 10-hour day would possibly subject them to hardship that could hamper our overall efficiency.

"(2) An increase in absenteeism, especially among the women, might follow such a change.

"(3) A 10-hour day would mean that in some cases an employe would have to be away from home for a very considerable length of time, since many of our workers come from relatively remote sections.

"(4) Many employes oppose the 10-hour day. This is one of the factors entering into our consideration, since the feeling of employes who do the work must be given due weight.

"(5) A 10-hour day would mean a considerable loss in machine and manhours in our manufacturing and fabricating departments. This would mean a substantial decrease in utilization schedules and a loss in output of important detail parts.

"(6) A 10-hour day would require a complete reorganization of public transportation arrangements to and from the plants. One shift, for example, would have to end at an early morning hour when local transportation officials state that bus operators would not be available."

"The factors cited indicate to us that the change, if made, might not accomplish the desired result and that increased productivity is already being accomplished by other methods."

New Franklin Engine Orders

Aircooled Motors Corp. announces receipt of two new orders for Franklin aircraft engines, one from the Brazilian government, the other from War Training Service. The Brazilian government has purchased a quantity of 65 hp engines for use in powering training planes in which Brazilian military and naval pilots will receive primary flight instruction. These engines are horizontally-opposed, air-cooled engines of the type familiar to light plane operators in the United States. The WTS order, for replacement purposes in its primary training planes, includes two Franklin models, one of 65 hp, the other a 90 hp model.

Test 6 hp Sailplane

Flight tests were scheduled last week by the Frankfort Sailplane Co. of Joilet, Ill., for a sailplane equipped with two 6 h.p. engines. The engines are attached to the struts. The experiment is not connected with military work and is the first step in endeavoring to provide light auxiliary power for sailplanes, much as sailboats often have auxiliary engines.

IRVIN
Air Chute
The Life Preserver of the Air

SYMBOL OF SAFETY

The name "IRVIN" on the harness means the chute is produced in an Irvin Factory with over 20 years' experience and skill in chute-making.

Literature can be had by school or training executives for the asking. Address Main Office, Buffalo, N. Y.

IRVING AIR CHUTE CO., Inc., 1670 Jefferson Ave., Buffalo 8, N. Y.
Factories at other points in the United States, Canada and England

The CATERPILLAR CLUB

Founded in 1920. There is only one qualification for a life membership: in an emergency men and women who have saved their lives with Irvin Air Chutes.

Many of the personnel of the flying services engaged in all phases of war have successfully used their Irvin Air Chutes in extreme emergency.

The word CATERPILLAR and the representation of a caterpillar are registered trade-mark features of Irving Air Chute Co., Inc. We are anxious that the records of the Club be kept as complete as possible in the Club Register and members, upon enrollment, will receive a caterpillar token with the name inscribed thereon. Communicate with Main Office.

IRVIN
Air Chutes

SERVING THE UNITED NATIONS' AIR FORCES

MACWHYTE
AIRCRAFT
Hi-Fatigue
TRADE MARK REG.
CABLES
AND ASSEMBLIES
...PREformed for performance

All Macwhyte aircraft products are made to conform to A-N specifications...including:

"SAFE-LOCK" TERMINALS

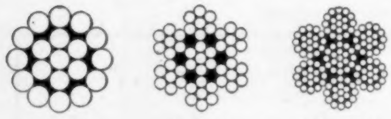
...in eye end, turnbuckle end, stud end, and fork end.

AIRCRAFT SLINGS

...custom-built for your work. Both standard wire rope and braided slings available.

TIE-RODS

...for internal and external bracing. Streamline, square, round.



NO. 661R-A

MACWHYTE COMPANY
2953 Fourteenth Avenue
Kenosha, Wisconsin

Manufacturers of MACWHYTE "Hi-Fatigue" Aircraft Cable—"Safe-Lock" Cable Terminals—Aircraft Tie-Rods—Braided Wire Rope Slings—and Wire Rope for all requirements.

ARMY E NAVY

Leading Aviation Stocks

New York Curb Exchange

	Week ending Nov. 27				Week ending Dec. 4			
	Sales	High	Low	Net Change	Sales	High	Low	Net Change
Aero Supply B	1,700	4	3⅞	— ⅛	.....	....	....	...
Air Associates	400	7⅜	7¼	+ ⅛	200	7	7	— ¼
Aircraft Accessories	1,900	2¼	2	— ⅛	5,900	2⅛	2	...
Aro Equipment	1,200	7⅝	7¼	— ¼	1,000	7⅜	7	+ ⅛
Bellanca Aircraft	800	2½	2⅜	+ ¼	800	2⅝	2½	+ ⅛
Breeze Corp.	500	10	9⅞	— ⅛	1,700	9⅝	8¾	— ⅝
Brewster Aero	2,400	3⅝	3½	.....	7,400	3⅜	3	— ½
Cessna Aircraft	2,500	5½	5	— ⅛	5,400	5⅜	4¾	— ⅛
Colonial Airlines	700	6½	6¼	— ⅛	2,200	6¾	6	+ ⅛
Fairchild Aviation	600	7⅝	7⅛	— ⅛	2,000	7	6¾	— ¼
Fairchild Eng. and Air.	4,600	2	1⅞	— ⅛	4,400	2	1⅝	+ 1/16
Irving Air Chute	300	7⅞	7⅝	— ¼	300	7¾	7⅝	.....
Republic Aviation	3,000	3⅛	2⅞	— ¼	4,600	3	2⅞	— ⅛
Ryan Aero	1,300	3¼	3⅛	+ ⅛	500	3	3	— ¼
Solar Aircraft	500	3	2⅝	.....	1,000	2⅞	2⅝	+ ⅛
United Aircraft pfd	1,400	8½	8⅛	— ½	1,300	8⅜	7¾	— ¼
Waco Aircraft	100	3	3	.....	500	3¼	2⅝	— 1/16
Western Air Lines	500	8¼	8	— ⅞	600	8	7¾	.....

New York Stock Exchange

	Week ending Nov. 27				Week ending Dec. 4			
	Sales	High	Low	Net Change	Sales	High	Low	Net Change
American Airlines	1,500	63	60	—3⅜	3,300	60½	58	— ½
Aviation Corp.	12,700	3½	3¼	— ⅛	26,300	3⅜	3⅛	+ ¼
Beech Aircraft	4,200	9½	8	—1⅜	6,000	8¼	7¼	+ ¼
Bell Aircraft	3,200	10¾	9½	—1	6,300	10	9⅛	+ ⅛
Bendix Aviation	3,500	33½	33⅛	.....	5,600	33¾	33	— ⅛
Boeing Airplane	7,700	13½	12⅛	—1⅜	10,400	13	11¾	+ ⅞
Braniff Airways	2,100	12⅞	12⅜	— ⅜	4,700	12⅝	12	.....
Consolidated Vultee	11,400	11	9⅞	— ¾	16,100	10¼	9⅛	+ ¼
Consolidated Vultee pfd	2,100	19½	17¾	—2	3,000	18¾	17½	+ ½
Curtiss-Wright	25,200	6⅞	6½	— ⅛	59,300	6⅞	5⅝	— ⅛
Curtiss-Wright A	8,600	16½	15	—1¼	12,700	15⅞	14⅝	+ ⅝
Douglas Aircraft	9,900	49½	45	—4¾	7,400	45⅝	44	+ ⅝
Eastern Air Lines	1,900	35¾	35	— ¾	2,600	34⅞	33¼	—1
Ex-Cell-O	1,000	21½	20½	—1	1,600	21¼	20⅛	+ ½
Grumman Aircraft Eng.	1,700	11⅞	10⅞	— ⅛	2,600	11¼	10⅝	— ⅜
Hayes Industries	100	6⅛	6⅛	— ⅛	200	6⅜	6⅜	+ ¼
Lockheed Aircraft	8,800	15¼	13⅜	—1½	19,200	13½	12½	.....
Martin, Glenn L. Co.	13,700	17⅞	16¾	— ⅝	12,800	16¾	14⅞	.....
National Aviation	1,700	10⅛	10	+ ¼	1,200	10⅛	9¾	— ⅛
North American Aviation	10,800	9⅛	8½	— ½	11,600	8⅝	8	+ ⅛
Northwest Airlines	400	17¾	17½	.....	1,200	17⅛	16¾	— ¾
Pan American Airways	8,200	31¾	29⅝	—1¾	12,900	30¼	28⅞	+ ¼
Penn Central Airlines	2,700	14⅜	13½	—1⅛	2,500	13⅞	13⅜	+ ⅛
Sperry Corp.	6,000	25	24	— ⅞	12,200	24¼	23½	+ ½
Thompson Products	1,400	30⅞	29½	— ⅞	1,600	29¾	28⅞	— ¾
Trans & Western Air	1,100	19¼	18½	—1⅛	1,800	18⅝	18	+ ⅛
United Air Lines	6,800	24¼	22⅞	—1⅛	10,100	23⅛	22	— ¼
United Aircraft	9,300	28⅝	26¾	—1⅞	16,100	27	24¼	+ ¼
United Aircraft pfd	800	100½	99⅛	—1⅝	1,300	101	99⅛	+ ⅞
Wright Aero	1,000	87¾	87¾	—3¼	9,000	88	78¼	— ¾

'Governmental Fumbling' Impedes Worker-Manager Cooperation, Says Lincoln

Asserting that the next forward step in the industrial system is properly applied incentives which will make all workers equally interested in the success of their organization, James F. Lincoln, president of the Lincoln Electric Co., Cleveland, charged last fortnight that "fumbling of the government" is impeding worker-management cooperation, industrial production, and progress.

Lincoln made this statement in a paper entitled, "Wage Incentives," which he presented before the annual meeting of the American Society of Mechanical Engineers in New York City Dec. 1.

The foundation of any incentive payment, Lincoln declared, is to make the worker feel that he is part of the team and that he will profit proportionately from the success of the organization.

Lincoln asserted that where properly applied incentive programs have been in operation, which included complete cooperation between labor and management, production rates had increased four times over plants where such incentive arrangements are not in force.

Perfect Circle Dividend

Directors of the Perfect Circle Co. on Nov. 24 declared the regular quarterly dividend of 50c per share on the 162,500 shares of outstanding capital stock of the company, payable Dec. 17 to stocks of record Dec. 3.

Ice-Cold Rivets—in Cellophane

E. I. du Pont de Nemours and Co. reveals that aluminum rivets, which have to be driven while cold, are being kept cold in cellophane envelopes for an hour and a half after being removed from freezer cabinets. Rivets not placed in the insulated envelopes "warm up" in a half hour, the company reports.

Airplane 'Body and Fender' Shop Booms

J. Gordon Hussey and wrecked plane

LIKE THE GERMANS, who claim they are salvaging everything from wrecked aircraft but the flak holes, Aero Services, Inc., is combining salvage with reconstruction in the rebuilding of damaged airplane parts on the Pacific Coast.

Since April, when Aero Services established a five-acre base of operations at Van Nuys, Cal., it has become one of the nation's largest airplane repair and overhaul depots. Its layout consists of machine, sheet metal, fabric, wood-working, paint, mangnaflux, sandblast, heat treatment, and welding shops. Its workers, with a backlog of training gained under the company's president, J. Gordon Hussey, when he operated CAA Repair Station No. 221, have performed such reconstruction feats as the following:

1. Rebuilt a shipment of B-24 fins, damaged in a train wreck, to exact tolerances on jigs developed by them from Consolidated Vultee blueprints.
2. Returned to the Army six carloads of aircraft surfaces, estimated 50% lost, 99¾% perfect.
3. Restored to the Navy numerous aircraft parts from equipment wrecked in the Solomons and at Pearl Harbor.

"Our men have the ability to dismantle without destroying any more of the damaged part than is necessary, and then to manufacture needed parts to complete the job, just as jigs are created to factory precision," said Hussey in explaining the operations of the company.

He predicts plane repair depots will dot the countryside after the war as private flying and feeder airlines are developed.

Tymms Loaned to Tata

Sir Frederick Tymms, Director of Civil Aviation for the Government of India, has been loaned to Tata Aircraft, Ltd., where he is serving in the capacity of managing director, it is reported by *Indian Aviation.* Tata Aircraft, Ltd., a new company located at Bombay, is managed separately from Tata Air Lines, although both enterprises are run by the Parsi family of Tata. Tata Air Lines maintains its regular schedule between Karachi and Madras.

Conservation at Douglas

Manufacturing man-hours and transportation are being saved by Douglas Aircraft Co. through a new technique of prefabricating raw metal stock at the mills instead of at aircraft plants, the company reports. Return of trimmings and surface scrap to the mills is eliminated. Douglas announces that this "streamlining step" is in line with its policy of utilizing manpower in direct assembly to the fullest possible extent, and that the plan is a refinement of the fluid labor pool dispatch system in which workers are shuttled to points where they are most needed in the assembly of warplanes.

Predicts Wide Use of Plastics

Future types of aircraft will be lighter in weight through use of plastics, Charles F. Marschner, manager of the plastics division of McDonnell Aircraft Corp., told the recent convention of the American Society of Mechanical Engineers in New York. Marschner said that use of standardized plastic structural members and panels will be widespread after the war.

Stratton on APMA Committee

Aircraft Parts Manufacturers' Association announces the election of G. W. Stratton to its executive committee as successor to R. S. Madison, who has resigned.

Aviation Securities Over the Counter

(Courtesy Merrill Lynch, Pierce, Fenner and Beane)

	Close of Business			
	November 27		December 4	
	Bid	Asked	Bid	Asked
AIRLINES				
All American Aviation	3¾	4⅛	3⅝	3⅞
All American Aviation Pfd.	22	25	22	25
American Airlines Pfd.	110	....	107	110
American Export Airlines	28½	30½	28½	29
Braniff*	12¼	12½	12¼	12½
Chicago and Southern Com.	5 Bid	....	4 Bid	5½
WTS	....	....	....	....
Continental Airlines	7¾	8½	8	8½
Delta Air	24	26½	24	26½
Inland Airlines	4	4¼	3⅞	4¼
Mid Continent	5	5¼	4⅞	5¼
National	13	13¾	13	13⅝
Northeast Airlines	6½	¾	6⅜	3¾
Penn Central Airlines Pfd.	29½	30	29¼	30¼
MANUFACTURING				
Aeronca	....	....	....	....
Air Associates Common	7	7½	6¾	7¼
Aircraft and Diesel	1¼	1½	1¼	1⅝
Aircraft Accessories	2	....	2	....
Airplane and Marine	2	2¼	1⅝	2
Airplane Mfg. & Supply	.65	75	.65	.75
Central Airports	⅝	⅞	⅝	⅞
Columbia Aircraft Prod.	¼	½	¼	½
Continental Aviation	3½	3⅞	3⅜	3¾
Delaware Aircraft Pfd.	¼	....	⅛	....
General Aviation Equip.	1⅛	1⅝	1	1½
Globe Aircraft	¾	1½	¾	1½
Harlow Aircraft	.20	.30	.15	.25
Harvill Aircraft Common	2	2⅜	2	2¼
Harvill Aircraft Pfd.	.80	....	.70	.90
Interstate Aircraft & Eng.	5¾	6⅛	5½	6¼
Jacobs Aircraft	3	3⅜	3⅛	3½
Kellett Aircraft	1⅞	2⅛	1⅝	1⅞
Kinner Motors	.80	.95	.80	.91
Liberty Aircraft	9¾	10⅛	9⅝	10
Luscombe	½	¾	½	¾
Menasco Mfg.	⅞	1	.30	.95
Northrop Aircraft	4½	5	4⅛	4⅝
Piper Aircraft Common	5¼	5⅝	5 Bid	....
Piper Aircraft Pfd.	13¼	14¼	13¼	14¼
Pittsburgh Aviation Ind.	5	....	5	....
Rohr Aircraft	4⅞	5¼	4¼	4⅝
Standard Aircraft	4	4¾	3½	4½
Taylorcraft Pfd.	4¼	5	4	4¾
Taylorcraft Common	1⅜	1¾	1¼	1¾
Timm	.45	.55	.35	.45
United Aircraft Prod. Pfd.	15½	16½	15½	16½

Manufacturing Personnel

Coleman

Hunt

Fitzpatrick

Sanders

Smith

Ebert

George M. Ebert has been appointed director of finance for the Airplane Division, Curtiss-Wright Corp. He was formerly comptroller of the organization's Propeller Division. **M. J. Smith**, comptroller of the Indiana plant of the Propeller Division, has been named comptroller of the entire division with headquarters at Caldwell, N. J.

Piper Aircraft Corp. announces that **John J. Daly**, chairman of the board of Daly Brothers Shoe Co., Spencer Shoe Corp., and Triplex Shoe Co. has been elected a director.

A. N. Coleman has been appointed to the newly created post of director of industrial relations at Harvey Machine Co., Los Angeles.

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TORQUE TUBE DRIVES (TAB CONTROL) ✓
FLEXIBLE SHAFT AND CASE ASSEMBLIES ✓
TACHOMETER ADAPTERS ✓
HYDRAULIC VALVES ✓

Douglas Aircraft Co. announces that **W. H. Hunt**, general supervisor of flight operations at the Santa Monica plant, has been awarded the 15-year service pin.

Arthur Gouge, president of the Royal Aeronautical Society, has been elected vice chairman of the board of Saunders-Roe, Ltd., British flying-boat builders.

Perfect Circle Co. announces that **Daniel C. Teetor** has been elected a vice president in complete charge of all manufacturing; **Robert M. Thomas** has been named sales manager of the company's automotive equipment division in the United States but continues as a director and vice president of Perfect Circle's Canadian company; **Charles E. McTavish**, formerly director of parts and service of General Motors Corp., Oshawa, Canada, succeeds Thomas as general manager and secretary of the Perfect Circle Co., Ltd.; **William B. Prosser** becomes general factory manager at Hagerstown, and **William Cramer** becomes manager of the Richmond plant.

Sikorsky Aircraft Division of United Aircraft Corp. announces the appointments of **Michael E. Gluhareff** as chief engineer and **Serge E. Gluhareff** as assistant engineering manager.

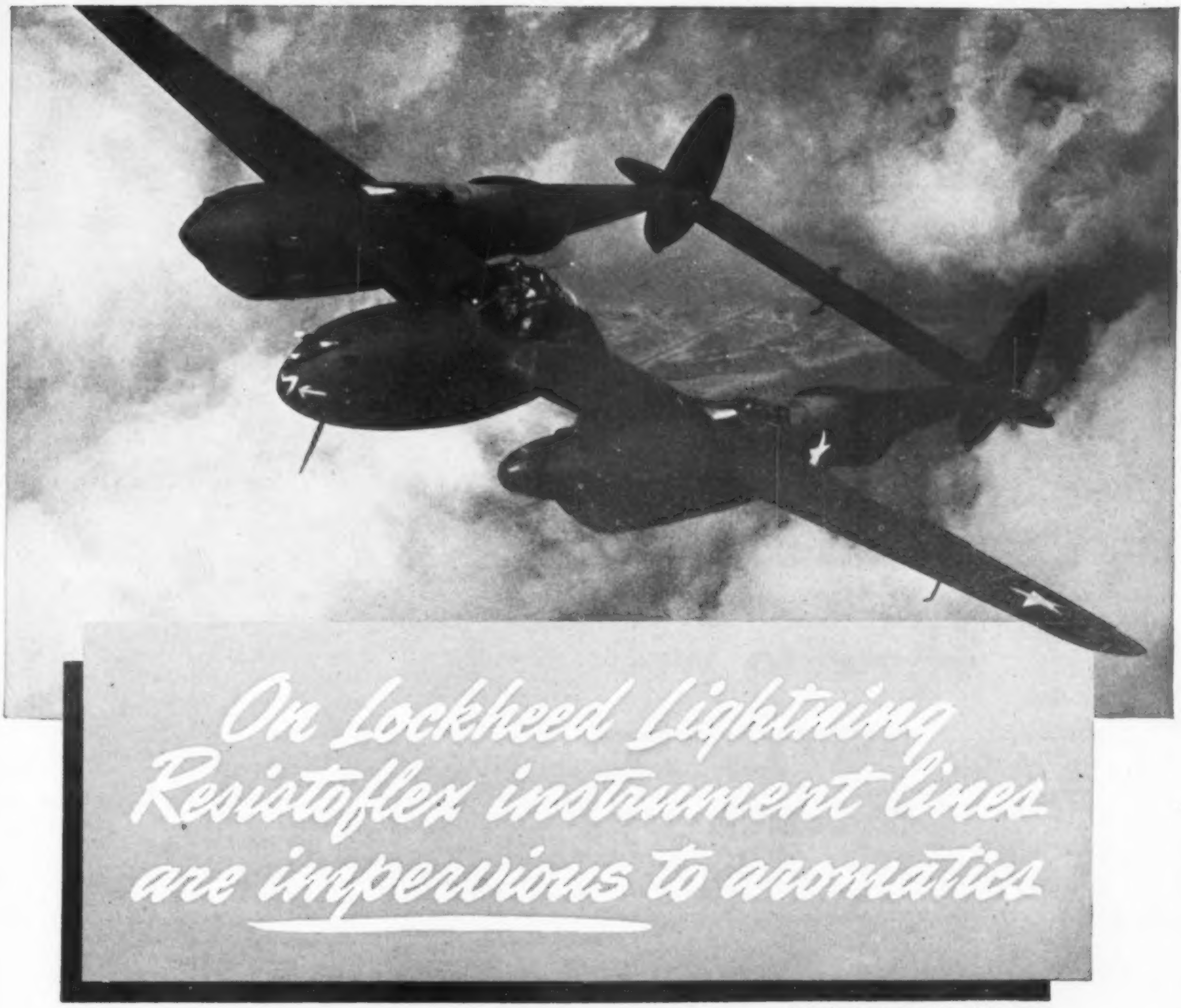
Harold G. Fitzpatrick is the new comptroller of the Jordanoff Aviation Corp.

Charles P. Sanders is assistant chief engineer for Ranger Aircraft Engines Division, Fairchild Engine & Airplane Corp.

Lawrance Engineering and Research Corp. announces that **Dr. Rowland Burnstan**, formerly director of the aeronautical division of Minneapolis-Honeywell Regulator Co., has been elected a member of the board, executive vice president, and general manager.

Albert Clayton Joins Goodyear

Albert W. Clayton, manager of the information department of the Aeronautical Chamber of Commerce since 1941, has resigned that position and has joined the Goodyear Aircraft Co. He will become management engineer with Goodyear at Akron, O., serving under Harry Blythe, vice president and general manager.



Photo, Courtesy Lockheed Aircraft Corporation

WHEN a Lightning starts on its important mission, its Resistoflex instrument lines are free from any possibility of gumming or internal erosion . . . thanks to their inner surface of COMPAR. This is the unique elastic plastic capable of so many variations that each is literally tailored to the job.

Used in Resistoflex aircraft hose assemblies, COMPAR is impervious to oils, hydraulic fluids, gasoline and fuel blends . . . even those having the highest aromatic content. The COMPAR surface is glass-smooth too, keeping turbulence and skin friction down to a minimum.

Resistoflex aircraft hose is built for maximum strength, toughness and flexibility. It is ounces lighter than other hose of similar construction, yet far stronger. It withstands heavy shock loads, is unaffected by flexing and vibration.

Resistoflex hose assemblies are supplied in all standard dimensions and lengths for instrument and medium pressure hydraulic lines in conformity with applicable Army and Navy specifications. For full details, write for the Resistoflex Aircraft Catalog.

OIL-IMMUNE MOLDED PARTS

Gaskets, diaphragms and many other molded parts are also produced from COMPAR—the *same* elastic plastic that gives Resistoflex hose its unique properties. Parts can be made entirely from COMPAR, or from sheets with fabric or metal inserts.

Many COMPAR formulations are available. They are indicated for applications requiring complete imperviousness to oils, gasoline and fuel blends, as well as other organic solvents and many gases . . . plus high strength and abrasion resistance. Write for further information.

RESISTOFLEX

LOW AND MEDIUM PRESSURE INSTRUMENT, HYDRAULIC AND VACUUM HOSE ASSEMBLIES—MANOMETER TUBING, DIPPED AND MOLDED SPECIALTIES.

RESISTOFLEX CORPORATION, BELLEVILLE, NEW JERSEY

How to walk away from a crack-up!

FIRE used to be a frequent—and disastrous—result of a crash landing of a combat plane. But now the Kidde Impact Actuator, set off by the jolt of the crash itself, can automatically turn on all fire-extinguishing apparatus, shut off the ignition. It can disconnect fuel lines and do other jobs controlled by a switch or valve. It's rugged enough to be unaffected by normal shocks and vibrations, yet so sensitive it flashes into action in the critical instant between safety and catastrophe.

The Impact Actuator is an invention of the Kidde engineers. It's one of the many contributions by Walter Kidde & Company to safer flying. If you have a job for the Impact Actuator drop us a line. Our Research and Development Department can help you work out details of the application.

Kidde

WALTER KIDDE & COMPANY, INC., 1213 MAIN STREET, BELLEVILLE, N. J.

Lockheed Drops "Vega" From Corporate Identity

The name "Vega" disappeared from the corporate identity of Lockheed Aircraft Corp. last fortnight.

"In general, all of Lockheed and Vega has become Lockheed," said a company announcement.

Largely for administrative purposes, suppliers, and subcontractors, the former Vega factories and detached units will be identified as Lockheed A-Plants; the former Lockheed plants will be Lockheed B-Plants.

Lockheed Aircraft Corporation is headed, as before, by Robert E. Gross, who also was chairman of the board at Vega Aircraft Corp. Courtlandt S. Gross, former Vega president, becomes vice president and general manager of Lockheed; Carl B. Squier, vice president in charge of sales and service; Cyril Chappellet, vice president in charge of administration; Mac Short, vice president in charge of engineering for A-Plants; Hall L. Hibbard, vice president and chief engineer for B-Plants; H. E. Ryker, vice president in charge of materiel; and C. A. Barker, vice president in charge of finance, and treasurer.

Other officers of Lockheed are L. W. Wulfekuhler, secretary; Dudley E. Browne, comptroller; and H. R. Campbell and Ron P. King, assistant treasurers. Most executives and personnel remain in the same posts, with the same responsibilities, as before the consolidation.

2 New Atlantic Refining Plants

Output of high-octane gasoline by the Atlantic Refining Co. will be increased by "thousands of barrels per day" through completion early next year of two catalytic cracking units at the Point Breeze refinery of the company in Philadelphia, and at its plant at Port Arthur, Tex., says a company announcement. The newly developed fluid catalyst type of high octane manufacture, claimed by Atlantic's research chemists to be the most advanced form of processing yet devised, will be used in the new units, which will cost in excess of $14,000,000.

Ford 'Flies Away' 1,000 B-24's

"More than 1,000 four-engined B-24 bombers have been flown away from Willow Run during the last year," the Ford Motor Co. announced last month. The company's statement said this figure does not include "substantial additional numbers shipped in knocked-down sets for final assembly elsewhere."

"The next thousand," commented a Ford representative, "are going to come awful fast."

Lockheed Revises Loan Plan

Notices have been filed with stock exchanges by Lockheed Aircraft Corp. of an amendment to its bank loan agreement with 15 institutions by which its line of credit is expanded from a maximum of $60,000,000 to $105,000,000.

New Boeing Branch Opens

A second branch plant of Boeing Aircraft Co. in Tacoma, Wash., opened last month. Resident manager of the plant is Thomas Nelson, who formerly was assistant superintendent of sub-assembly shops for Boeing.

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That Christmas Shall Not Perish . . .

The history of civilization is glorious witness to this day of resurgent hope . . . for not in all humanity's progress has the observance of any event signified so much to so many. These shining hours, with their luster of faith and happiness, must not, shall not, be dimmed. ☆ ☆ ☆ Chaos is abroad in our universe . . . every sentiment of kindliness and love and compassion is threatened . . . and no sacrifice can be too great to preserve this hallowed custom for God-respecting, peace-loving peoples the world o'er. ☆ ☆ ☆ To this end we make planes to train men in the grim arts of aerial warfare . . . not with hate, nor in anger . . . nor for pride of conquest . . . but that our children and their children's children will be able to live with fullest appreciation . . . "On earth peace, good will toward men." ☆ ☆ ☆ Whoever you are . . . wherever you are . . . be your sacrifice blood, sweat, or tears . . . to the hosts who are consecrating their lives, that the spirit of Christianity shall not be lost . . . we send gratitude and Christmas greetings!

☆ A year ago we dedicated this Christmas message of faith and hope. Not yet has the miracle of our people's staunch courage won its full reward. But now, with the first early gleams of victory, we feel this repetition will affirm that the forces of freedom and justice cannot fail.

AERONCA AIRCRAFT CORPORATION
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Crusader ENAMEL HELPS CUT RIVET REPLACEMENT 90% AT AMERICAN EXPORT AIRLINES!

THE fleet of flying boats operated by American Export Airlines is protected by Crusader Synthetic Enamel on all exposed metal surfaces.

Regular between-flight check-ups have proved that this one coat finish provides better protection against salt water immersion, especially around rivet heads—the place where conventional aircraft finishes first break down. And, because Crusader Enamel provides better adhesion to anodized aluminum, it "stays put" longer under the severe impact of landings and take-offs.

Furthermore, since Crusader Enamel handles with the production ease and speed of lacquer, it is helping many leading airlines meet wartime schedules. Following the war, this more durable speed finish will have a permanent place in aircraft production and maintenance. Investigate its complete possibilities today.

WATCH ROXALIN IN AVIATION

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Chicago Inventor Discloses Development of Piston Type Steam Engine for Airplane

A Chicago inventor told a joint meeting of the Society of American Military Engineers last month that he has flown 800 hours in steam driven planes. Speaking at the Chicago Engineers' Club, Louis C. Trosky described an aircraft steam engine, invented by him, which burns unprocessed fuel oil and requires less space than internal combustion gasoline engines at multiple efficiency.

Trosky uses a piston-type engine, and a boiler of thin tubing. His burner is a combination of an automobile carburetor and a paint spray gun, and will use almost any fuel "from crude oil to lard." A head of steam giving 600 hp can be developed in 1 minute, 20 seconds in a cold boiler, he claims.

Other claims made by Trosky:

- A steam plane will take off in one-third the distance of a gasoline driven plane.
- It will climb at angles "unthought of with gas planes," and the higher the altitude, the faster the climb.
- Propellers can be shifted into reverse, as brakes, "leaving a diving enemy plane ahead of you, dead in your sights."
- The steam engine is noiseless and vibrationless, and is inaudible 200 feet above the ground.
- Oxygen for the burner at high altitudes would be obtained from the boiler exhaust, which "would be 18% richer than the air you breathe." This oxygen also could be carried from the exhaust into the pilot's cabin.
- A gallon of lubricating oil would last for 24 hours of flying.

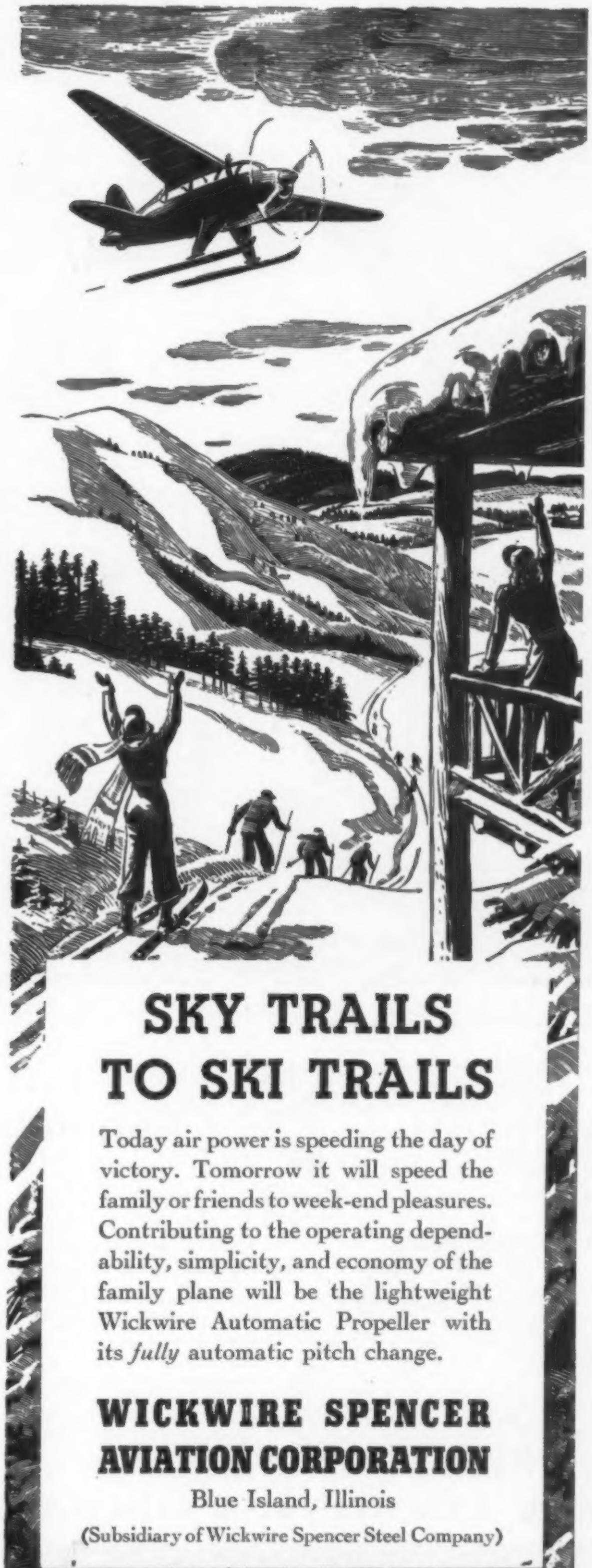
Trosky said he has an engine designed to give 650 mph at 50,000 feet at 400 hp.

New Douglas Retirement Plan

Stockholders of Douglas Aircraft Co., at a special meeting recently, authorized a retirement pension plan designed for salaried employes drawing more than $3,000 a year and which supplements the Federal Social Security pension. Retirement age under the plan has been set at 65, with 75% of the actuarial reserve available in cash for employes of five to 15 years' service and 100% in cash available to those of longer service. The plan provides for severance and death benefits for approximately 5,000 employes expected to qualify for membership. Contributions from employes are not contemplated.

New Westinghouse Product

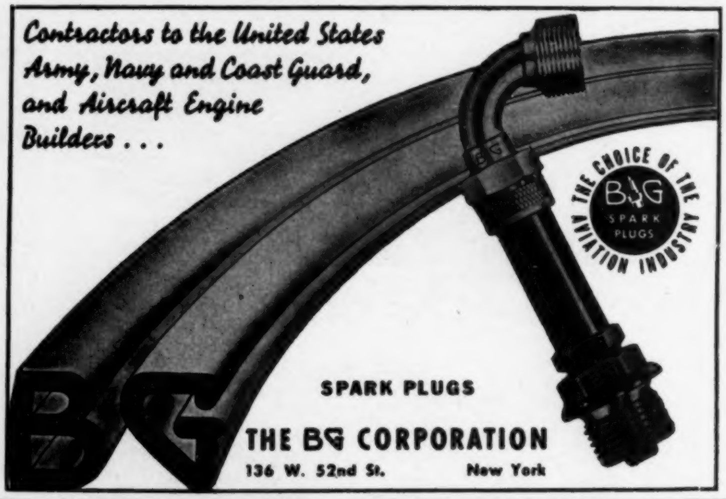
Westinghouse Electric and Manufacturing Co. is now making Prestite, a porcelain which is said to protect the radio systems of American Bomber and fighter planes at high altitudes. Prestite guards oil-filled radio condensers from electric flashes at altitudes of 30,000 feet or over. Other uses of this new substance include the protection of radio tubes from violent temperature changes and the protection of radio transformers from damaging moisture.



SKY TRAILS TO SKI TRAILS

Today air power is speeding the day of victory. Tomorrow it will speed the family or friends to week-end pleasures. Contributing to the operating dependability, simplicity, and economy of the family plane will be the lightweight Wickwire Automatic Propeller with its *fully* automatic pitch change.

WICKWIRE SPENCER AVIATION CORPORATION
Blue Island, Illinois
(Subsidiary of Wickwire Spencer Steel Company)



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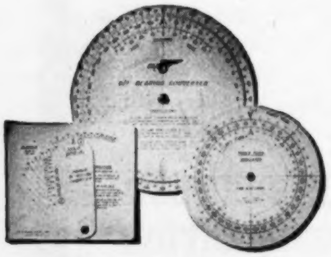
Aircraft Computers



RADIUS OF ACTION—Determines the time and distance from a fixed base.

TIMED TURN—Indicates time of turn in seconds, angle of turn and the new heading, when making standard approach turns.

D/F BEARING—Converts relative QDM and QDE direction finder bearings.

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P. O. Box 30 Mineola, N.Y.

West Coast Engineer Lists What Is Needed in Postwar Power Plants for Aircraft

The aircraft power plant of tomorrow should develop along lines of simplicity and serviceability, with fuel economy and ease of maintenance as the chief objectives.

Edenquist

Gunnar Edenquist, vice president of Kinner Motors, Inc., feels that this principle should hold true for all commercial types, whether designed for small planes or huge transports, he told *American Aviation* in a recent interview on the West Coast.

Development of power plants for small planes has been Edenquist's specialty since 1929, when he joined Kinner as design engineer, later to become chief engineer, and ultimately vice president in charge of sales. Along these lines, he looks for certain definite trends.

"You will not find any particularly new or revolutionary principles for the small power plant," he said. "It will remain gas-powered and follow conventional standards. There will be streamlining, not for the sake of high speed, but rather for refinement in appearance."

Forward speed will vary from 125 miles to 175 miles per hour, depending on the use of the private craft, he predicts. He places the lower speed as ideal, economically, for the family plane. Gas consumption would then approximate 15 miles to the gallon, while at the higher speed it would be 10 to 12 miles per gallon, he points out.

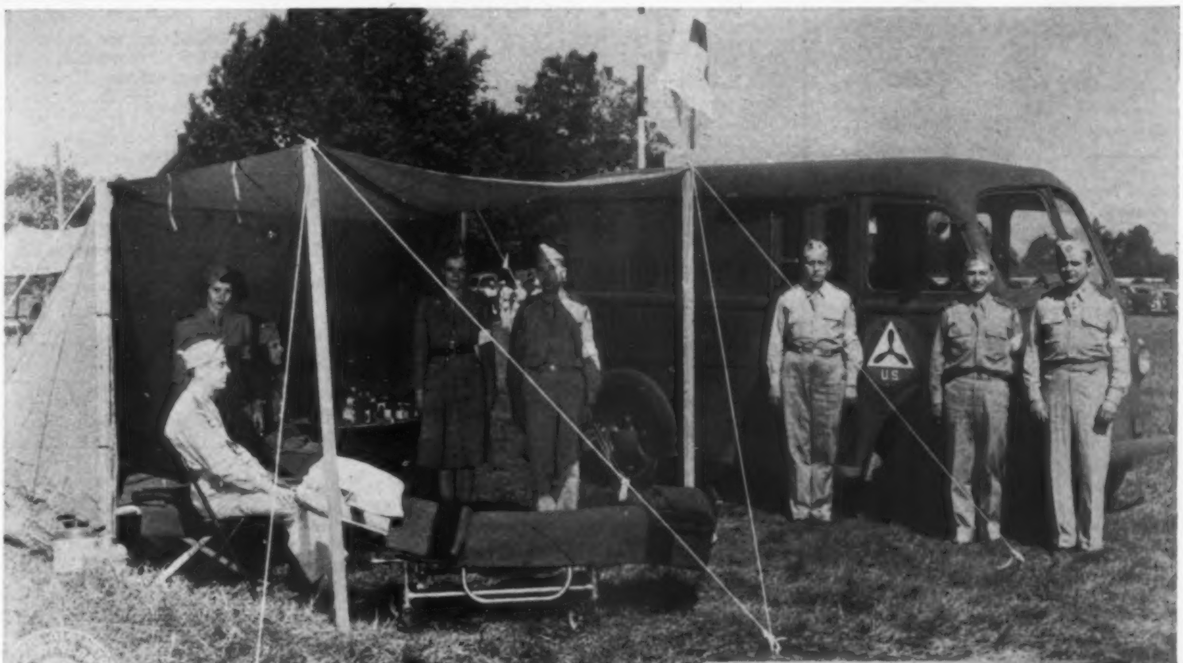
"We must keep in mind that the small plane is about to parallel the development of the automobile from 1908 to 1938, when beauty, safety and ease of operation were achieved," he said. "The public should be approached on the same basis, with airplanes, engines, installations and controls simplified and safe. The required control apparatus and instruments should be kept at a minimum, and a layman's language developed to insure easy absorption of necessary technical knowledge."

For transports, Edenquist estimates engines will be designed to suit three distinct types of craft: the high-speed express, the trunk operation as we know it today and the shuttle or feeder plane.

Richfield Oil Expands

Enough 100-octane fuel to fly 1,000 Flying Fortresses to Berlin and return every day will be produced daily by the Richfield Oil Co. on completion of its Wilmington, Calif., plant, the company announces. The new plant, costing $25,000,000 will enable the company to raise its production for direct use in the war effort from 59% of its total production to 75%, the announcement states. Richfield claims that new scientific methods have reduced the cost to the government of 100-octane gasoline from 35 cents a gallon at the time of Pearl Harbor to about 13 cents.

WHITE KNOWS TRANSPORTATION *FROM THE GROUND UP*



ROYAL PALM DAIRY

NOW . . . The White Horse, as an ambulance, serving the Civil Air Patrol. THEN . . . (right) White Horse serving a commercial plane.

The WHITE Horse joins the Civil Air Patrol

Remember the trim little vehicle which, just before the war, was beginning to be a commonplace sight around airports . . . delivering and picking-up express and mail . . . provisioning planes and performing a number of other delivery services? It was the White Horse . . . The White Motor Company's conception of a more efficient delivery vehicle.

No new White Horses have been built since White converted 100% to war production, but many built before Pearl Harbor have been put to wartime uses. An example is the White Horse ambulance serving the Civil Air Patrol at Cleveland Airport. Equipped with stretchers, first aid supplies, field hospital equipment and other items needed for first aid and rescue work and manned by C.A.P. members who are well-trained in rescue work, the White Horse can rush to the point of need, set up a field hospital, if necessary, and handle the casualties without loss of time. Nurses as well as first aid graduates comprise the crew. Following first aid treatment, the injured are speedily transferred to the nearest hospital.

* * *

AFTER THE WAR . . . The White Horse will return to its peacetime functions. Meanwhile, only extra care will assure owners of maximum life and the most efficient operation for the duration. Your local White Branch or Dealer has a definite conservation plan available. Phone him for details.

White

THE WHITE MOTOR COMPANY • Cleveland

Builders of U. S. Army Tank Destroyers, Scout Cars, Half-Tracs, Prime Movers and Cargo Trucks, the complete line of Super Power Trucks and Tractors, City and Inter-City Coaches, Safety School Busses and the Famous *White Horse.*

FOR MORE THAN 40 YEARS THE GREATEST NAME IN TRUCKS

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Industry's Grasp of Vet Re-employment Problems Cited in New OWI Report

The aircraft industry has recognized the possibilities and problems of employing discharged veterans, says a report "Employment and Training of Discharged Veterans," released last fortnight by the Office of War Information.

"A number of companies, especially airplane companies, have placed standing orders with the Veterans Employment Service for discharged veterans," OWI stated.

Praising the attitude of the returned veterans, the personnel manager of El Segundo plant of Douglas Aircraft said in the report: "Their progress is rapid due to their desire to get the job done." He added that the "change from firing line to production line gives them the opportunity to continue to serve." Some 400 veterans of this war are now working at the plant.

Typical of the veterans working for Douglas is a Marine flight sergeant who was shot down at Guadalcanal with the loss of one eye and a shattered face; he is flight-testing radios in the Dauntless SBD Dive Bomber.

North American Aviation's Dallas plants employ 686 veterans in the production of Mustangs, Liberators and Texan trainers, the report reveals. The company works with the Veterans Employment Service, Veterans Administration and American Legion posts in California, Texas and Kansas City to employ veterans, both able-bodied and disabled. OWI states that a national advertising campaign has been conducted by the company to inform veterans of jobs available at North American.

North American explains in the report that its three-fold purpose is: "(1) to provide a method of rehabilitation of disabled veterans; (2), the company can utilize the knowledge and technical training many of these men gained in the armed forces; (3), the placement of veterans in production departments makes for a good morale factor by bringing into the plants the personal experience of combat."

North American attempts to fit veterans to their jobs by considering both their physical handicaps and previous experience and training.

"Many are equipped to step right into production jobs," says its report. "Such as Navy machinists mates, aircraft mechanics and aircraft crew chiefs. Others are sent to training schools or given in-plant training."

OWI reported that Consolidated Vultee is also employing "a fairly substantial number of veterans" and is eager for more.

'Water Injection'

Pratt and Whitney's Double Wasp engines now have an auxiliary "water injection device" which has three main advantages: (1) The cooling effect of the vaporization in the cylinder is greater with water than with fuel; (2) The susceptibility to detonation, which limits the power that can be taken from a cylinder, is lessened with the presence of water in the cylinder; (3) Use of a leaner mixture from the carburetor is permitted.

Cancel Willow Run 'Town' Project

A proposed million dollar project for a shopping center near Willow Run, Mich., has been cancelled on the recommendation of the War Department. Undersecretary of War Patterson recently said in a letter to Sen. Homer Ferguson (R. Mich.) that it had become doubtful whether the project would be of enough benefit to Willow Run employes to warrant its construction.

NATIONAL AVIATION CORP. reports that the indicated net asset value as of September 30 was $17 per share. On June 30, net asset value was $18.01 a share, while on September 30, 1942, net asset value of $14.20 was reported.

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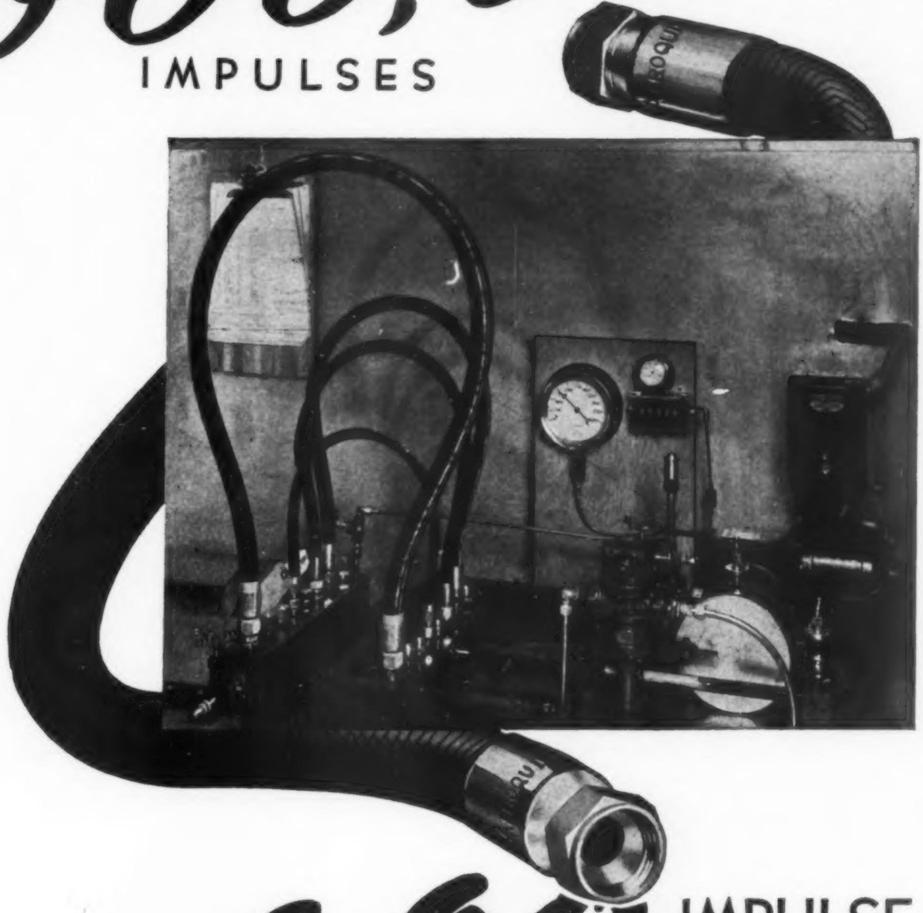

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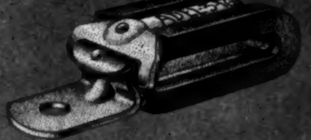
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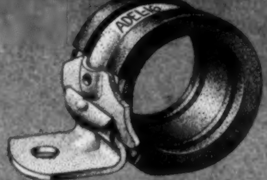
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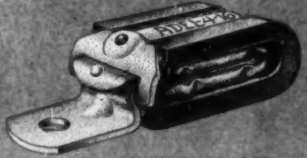
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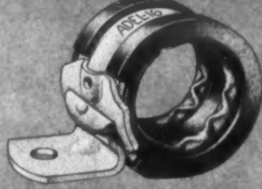
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